



UNDP Project Document

Government of Gabon
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Additional partners: Wildlife Conservation Society (WCS)

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Sustainable Management of the Mbé River Forested Watershed through the Development of a Payments for Ecosystem Services (PES) Mechanism

Brief description

The Mbé River watershed is one of the most biologically diverse sites in Central Africa. It is also Gabon's most economically important watershed, providing electricity for 60% of the country's population and providing other ecosystem services such as regulating water flows, carbon sequestration, and biodiversity. These services are presently provided free of charge.

The Mbé watershed ecosystem and its biodiversity face a series of growing threats, most notably unregulated hunting, unregulated mining and unsustainable logging. The long-term solution for the conservation of the Mbé watershed's biodiversity and ecosystem services is to ensure that sufficient financial resources are available to cover PA (Monte Cristal National Park, for instance) management costs, support sustainable resource use in the watershed area and remunerate the various actors (including local communities) that help in maintaining environmental services and preserving biodiversity.

The proposed Project will develop a sustainable funding mechanism in order to secure the long-term protection of the forest ecosystems. Specifically, the Project will remove barriers to such a funding mechanism by strengthening the enabling environment in Gabon for payments for ecological services (PES) and testing a PES scheme(s) for the Mbé forest.

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Acronyms

ANPN	National Agency for Protected Areas
CBFP	Congo Basin Forest Partnership
CDM	Clean Development Mechanism
CFAD	Forest Concessions under Sustainable Management
CNDD	National Commission for Sustainable Development
COMIFAC	The Central African Forest Commission
CTA	Chief Technical Advisor
DGE	General Directorate of Environment
DRF	Rural Forest Domain
EC	European Commission
FSC	Forest Stewardship Council
GDP	Gross Domestic Product
GEF	Global Environment Facility
ICDP	Integrated Conservation and Development Project
IO	Implementing Organizations
LC	Local Committees
M & E	Monitoring and Evaluation
MA	Millennium Assessment
MoE	Ministry of Environment, Nature Protection and Sustainable Development
NGO	Non Government Organisation
NPC	National Project Coordinator
PA	Protected Area
PES	Payment for Ecosystem Services
PFPE	Forest, Fisheries and Environment Program
PMU	Project Management Unit
PNAE	Environmental Action Plan
PPG	Project Preparation Grant
PSC	Project Steering Committee
PSFE	Forest and Environment Sector Program
PWS	Payment for Watershed Services
REDD	Reduced Emissions from Deforestation and Degradation
RIL	Reduced Impact Logging
SEEG	Société d’Energie et d’Eau du Gabon
SFM	Sustainable Forest Management
TC	Technical Cell
UNDP	United Nations Development Program
USAID	United States Agency for International Development
WB	World Bank
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund for Nature

SECTION I: Elaboration of the Narrative

PART I: Situation Analysis

INTRODUCTION

1. Natural ecosystems are being rapidly degraded regardless of the fact that they provide significant economic value to the global economy. These ecosystem services – such as provision of clean water, flood control, pollination, storm protection, and many others – greatly enhance the quality and sustainability of human livelihoods. Although the global value of ecosystem services has been roughly assessed to be over \$30 trillion, in most cases these services are free, undervalued, and as a result, there is under-investment in maintaining the provision of these services. This underinvestment results in their degradation or even complete loss. A growing effort is being made in developed countries to better integrate ecosystem values into the market economy. Less progress has been made in middle and low income countries where natural ecosystems and their services tend to provide even greater relative economic value. Developing a viable Payment for Ecosystem Services (PES) program in Gabon will have the dual benefits of increasing sustainable investment in preserving ecosystem functions, conserving globally important biodiversity and providing a replicable model for similar PES systems in Africa.

2. Payment for Ecosystem Services (PES) describes a variety of institutional arrangements which create methods for explicitly valuing the services provided by natural ecosystems and establish frameworks in which the beneficiaries of ecosystem services can pay a fair price to maintain them. They are considered a more direct approach to conservation¹ seeking to transfer financial resources from beneficiaries of ecosystem services to those who provide these services². Advocates of the PES approach suggest that it has the potential to overcome the failings of other conservation paradigms as it is more cost-efficient³. There is also great excitement at the potential of PES approaches to generate new revenue streams for conservation and contribute to climate change mitigation. For example, were REDD (Reduced Emissions from Deforestation and Degradation) included in the replacement for Kyoto currently being negotiated, it would bring an extra 2.3 -12 billion US dollars to tropical forest conservation each year^{4,5}

3. There are numerous reasons for market failure with regard to payments for valuable ecosystem services. Some reasons include the lack of understanding of the economic value of a service, poor concentration of beneficiaries for the service (i.e. many people with a low willingness to pay), high transaction costs for capital transfer, monitoring, or other ongoing required activities, high opportunity costs for land, among others. These reasons that have historically resulted in low investment in the maintenance of ecosystem services will also work against the implementation of any new PES program. The main barriers to successful implementation of PES programs can be divided into: economic, informational, or institutional barriers. As well, startup costs tend to be high relative to ongoing

¹ Ferraro, P. J. and Kiss, A. 2002. Direct payments to conserve biodiversity. *Science*, 298 pp 1718-1719

² Mayrand, K. and Paquin, M. 2004. Payments for Environmental Services: A Survey and Assessment of Current Schemes. A report for Unisféra International Centre

³ Ferraro, P. J. and Simpson, R. D. 2002. The Cost-Effectiveness of Conservation Payments. *Land Economics*

⁴ Miles, L. and Kapos, V. 2008. Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation: Global Land-Use Implications. *Science* 320: 1454-1455

⁵ El Lakany *et al* in Kanninen, M. et al. 2007. Do trees grow on money? The implications of deforestation research for policies to promote REDD. Center for International Forestry Research (CIFOR).

operational costs. Better knowledge of means to overcome these barriers would be extremely beneficial towards the use of PES for more widespread conservation of globally and locally valuable biodiversity.

4. Ecosystem services can be hard to value economically and are often ignored by traditional economic assessments and institutional structures. This can result in their degradation or even complete loss, which is a sub-optimal outcome for service beneficiaries and for society as a whole. Despite major global investment in a variety of approaches for environmental protection (including protected areas, Integrated Conservation and Development Projects and ecotourism development) many of these ecosystems services continue to be degraded or used unsustainably⁶.

5. This proposed project follows Wunder's⁷ definition of PES: "*a voluntary transaction where at least one payer makes a payment to at least one provider, conditional on the provision of a well-defined, continuously provided ecosystem service or of an ecosystem-use likely to secure that service (i.e. use of land and water/marine ecosystems).*"

6. Until now, four types of environmental services have been sold: 1) carbon sequestration and storage 2) biodiversity protection 3) watershed protection and 4) protection of landscape beauty.

- i. Of the four main types of PES, carbon and biodiversity appear to have most relevance at the international scale. Payments for **carbon sequestration and storage** are truly a global form of PES, in which the geographic location of the buyer and supplier are largely irrelevant.
- ii. Payments for **biodiversity conservation** are also primarily international. One example is the case of pharmaceutical companies that are keen to exploit the genetic biodiversity of tropical countries. Large conservation NGO's are also important buyers of biodiversity services; for example, when the Nature Conservancy buys development rights from landowners in order to ensure environmental conservation.
- iii. Payments for **watershed protection**, on the other hand, are usually intended to assure water quality and flow, sediment retention, and flood reduction at a very local scale. Buyers of such services are usually located in close proximity to the sellers, for example when a hydroelectric company pays landowners to adopt land use practices that reduce the amount of sediment coming from the watershed in which it operates.
- iv. Payments for **scenic beauty** are also context-specific, although in this case international tourists, and eco-tourists in particular, may be important buyers.

7. While PES mechanisms have been established in many places in Latin America, Africa lags behind with only a few schemes in Eastern and Southern African countries. A recent review states that Africa accounts for only 3% of global PES schemes⁸. The concept is still novel in Central Africa, and to date there is very little information about any projects which have been developed in the Congo Basin. The Congo Basin is the second largest forest block after the Amazon and is globally important for biodiversity, fresh water, and carbon storage. It has also been estimated that the hydro-electric generation potential of the Congo Basin amounts to one-sixth of the estimated global total⁹. All these factors mean that there is a huge potential for PES projects to develop and yet very few are in development.

⁶ MA (Millennium Ecosystem Assessment), 2005. *Ecosystems and Human Well-being; Synthesis*. Island Press, Washington

⁷ Wunder, S. 2007. The efficiency of payments for environmental services in tropical conservation. *Conservation Biology*. 21(1):48-58.

⁸ Ferraro, P.J. 2009. Regional Review of Payments for Watershed Services: Sub-Saharan Africa. *Journal of Sustainable Forestry*, 28:525-550

⁹ Debroux, L.; et al. 2007. *Forests in Post-Conflict Democratic Republic of Congo*. CIFOR, The World Bank and CIRAD. 2007

8. In Ferraro's (2009) review of Payment for Watershed Services (PWS) schemes in sub-Saharan Africa the following factors are listed as common barriers to PWS development: the lack of technical and market information, limited institutional experience, inadequate legal framework, limited successful business models, suspicion of markets for public goods, and equity concerns. Ferraro's review compares African and Latin American examples to better understand the constraints to the development and occurrence of PWS in Africa. However, given scarcity of examples in Africa it is difficult to make any real conclusions.

9. The proposed project would be the first Payments for Watershed Scheme (PWS) in the Congo Basin and would greatly contribute to the empirical evidence base for PWS development in Africa. The project aims to address key barriers to developing a sustainable pilot PES mechanism to secure the long-term protection for the high conservation value forested river basin and watershed in Gabon. It has been designed to maximize lesson learning and replicability, and to explicitly evaluate its effectiveness at changing behaviors of upstream land users.

10. The Republic of Gabon is a particularly good place to carry out a pilot study. Gabon has shown good forest governance since the 1990's and has made a considerable effort towards conservation of biodiversity in the last decade by dedicating more than 10% of its territory to conservation. Gabon's protected forest areas (PAs) have been designed and are managed for biodiversity purposes, but they also deliver a continued flow of ecosystem goods and services (such as watershed protection, climate regulation, pollination and scenic beauty) on which a large proportion of the rural poor depend for survival through subsistence agriculture, collection of safe drinking water, fishing and the harvesting of forest products. Not only are the goods and services provided by PAs important for rural livelihoods, they are also crucial to the sustainability of all primary industries and the country's economy, through the provision of water and hydroelectricity as well as regulation of local and regional climate conditions.

11. However, despite the contribution of ecosystem services to rural livelihoods and the national economy as measured by the Gross Domestic Product (GDP), these benefits are often not accounted for; or at best their value is underestimated. Setting aside protected areas is still seen as being un-economical or as an opportunity cost by the general public and decision makers, rather than an investment in natural capital. The Gabonese authorities recognize the benefits to the country of grants provided by international agencies and private sector partners for addressing threats to biodiversity. However, the concern is that such grants represent short-term funding, which leaves long-term needs unaddressed when the projects end. Given the current global financial crisis donors priorities will likely to change which will affect conservation efforts. It is essential for Gabon to identify sustainable financing mechanisms for the long term conservation of its protected areas and PES may bring new resources and new incentives for conservation. The development of economic instruments such as PES that take into account the non-market value of ecosystem services is considered one promising response to the challenges of linking conservation and development in Gabon.

12. Within Gabon, the Mbé watershed is an excellent site for a pilot PES given that the hydroelectric power utility is a clear buyer of the watershed services provided by the upstream land users. Contrary to carbon or biodiversity, the watershed services of the Mbé are tangible and there is a clear local beneficiary. GEF funding is being request to cover the start up costs for this pilot scheme but recurrent payments are expected to be negotiated with the hydroelectric power utility. The lessons learned from this pilot PWS project will also have wider applications for other PWS projects as well as REDD projects which are also developing in Gabon and in the region.

CONTEXT AND GLOBAL SIGNIFICANCE

Political and geographical context

13. Gabon is located on the Atlantic coast of Central Africa. It is located on the equator and shares its borders with the Gulf of Guinea to the west, Equatorial Guinea to the northwest, and Cameroon to the north, with the Republic of the Congo curving around the east and south. Its size is almost 270,000 km² with an estimated population of 1,500,000. There are three distinct regions: the coastal plains (ranging between 20 to 300 km from the ocean's shore), the mountains (Cristal Mountains to the northeast of Libreville and the Chaillu Massif in the centre, culminating at 1575 m with Mont Iboundji), and the savanna in the east.

14. Gabon has been one of the most stable countries in the region and also one of the most prosperous, with a per capita income of four times the average for Sub-Saharan Africa. This is primarily due to offshore oil production which has developed since 1960 which now accounts for more than 50% of GDP¹⁰. However Gabon's oil resources are projected to decrease in the forthcoming years and there is an urgent need to diversify the economy. The forestry and environment sector is seen as an obvious alternative to compensate for the declining contribution of the oil sector to Gabon's economy. With forests covering 85% of the territory, Gabon is one of the most densely forested counties in Africa and in the world. However the current oil decline is likely to increase pressure on Gabon's rich forests, fisheries and biodiversity endowments as alternative income sources with the risk of unsustainable exploitation, loss of biodiversity, and decreasing benefits for local populations.

Environmental context

15. Gabon has the second largest forest in the Congo basin which in turn is the second biggest forest reserve in the world after the Amazon. Forests cover over three-quarters of Gabon's territory (more than 22 million hectares) and include an estimated 8,000-10,000 species of plants (20 percent of which are endemic), nearly 200 mammal species (including lowland gorillas, chimpanzees, 10 species of monkeys, forest elephants, and even hippos that surf ocean waves) and 670 bird species.

16. Gabon contains three Terrestrial Ecoregions as defined by WWF as the world's most outstanding examples of each major habitat types: the *Congolian Coastal Forest*, the *Northwestern Congolian Lowland Forests* and the *Western Congolian Forest-Savanna Mosaic*. In addition, there are significant stands of central African *mangroves* along the coast and patches of *Congolian-Zairean swamp forests* in the northeast. Furthermore several priority freshwater systems occur within the country as well as 850 km of coastline and highly productive marine systems.

17. Gabon has experienced relatively low rates of deforestation and forest degradation compared to surrounding countries due to strong forest governance implemented since the beginning of the 1990s and an underdeveloped agriculture and livestock breeding sector. Anthropogenic drivers of deforestation in Gabon include: development of agricultural activities and settlement of populations near urban areas and development of the mining sector as well as illegal logging for timber and construction. However, there are not well documented in Gabon and it is therefore difficult to determine the relative impact of each factor on the overall deforestation and degradation. These pressures will continue to impact mainly areas with a lower level of protection (rural forestry domain and small-scale permit concessions for which sustainability is not proven given their small size)¹¹. Despite these pressures, Gabon has low human population density and therefore it has a higher chance of success in protecting biodiversity than most

¹⁰ www.cia.gov

¹¹ Gabon's R-PIN

other tropical countries. Enhancing the conservation of biodiversity in Gabon will therefore make a significant contribution to biodiversity conservation within the Congo basin and globally.

18. In addition to high plant diversity, this area is of similarly high global and regional importance for the conservation of animals. During the PPG, existing data was assessed and compiled. Faunal surveys have been completed for birds and mammals, showing high species richness, including populations of elephants, madrills, giant pangolin, bongo and sitatunga. Although covering a relatively small geographical area, the watershed is of disproportionate importance for large mammal conservation due to its relative isolation. Although total ape populations are modest, gorilla and chimpanzees in the watershed have been unaffected by the Ebola hemorrhagic fever pandemic that has decimated ape populations in neighboring areas. The Mbé watershed thus continues to act as a refuge and source population, and this role is likely to grow in importance with ongoing climate change and human-wildlife disease transmission. Fishes, amphibians, and invertebrates have yet to be surveyed, but the great floral richness and diversity predicts similarly high values for these taxa.

Human context

19. Gabon is one of the least populated countries in Central Africa and has a urbanization rate of about 80%. The population density outside the cities is estimated at 2 inhabitants/km². In the case of the Monts de Cristal Mountains, it appears that the western, more rugged part, had been inhabited until shortly before the first Europeans arrived ay nineteenth century. However, since the “regroupement” that took place during the 1930s, the villages follow the main road between Kougouleu and Medouneu. A mosaic of crops, fallow and secondary forests now exist on both sides of the road and within the heart of the massif, the sites of ancient villages are gradually recolonized by forest. Since the years following the Second World War, large parts of the massif, have been granted to the logging industry and some areas have already undergone more than rotation. Today, there are 10 villages within the watershed (c. 1100 inhabitants). These people live primarily off subsistence hunting and agriculture.

Economic context

20. The Mbé is Gabon’s most economically important watershed, providing electricity for around 60% of the country’s population inhabiting the capital city, Libreville. Libreville’s principal electricity source is a hydroelectric plant on the Mbé River that is under a concession with and operated by *Société d’Energie et d’Eau du Gabon* (SEEG), a subsidiary of the French multi-national, Véolia.

21. The Société d’Energie et d’Eau du Gabon (SEEG) is Gabon’s sole electricity concession and is responsible for all electricity and water production and distribution. The current concession of 20 years was signed in 1997 and ends on the 30th June 2017. The state remains owner of all factories and equipment whilst SEEG assures the management. SEEG is also resonsible for the maintenance and replacement of any equipment as well as any investments required in order to meet increasing demand. All of Libreville’s electricity comes from the two hydroelectric plants in the Mbé watershed and a thermal plant in Owendo (Table 1).

Table 1: Electricity production for the Estuaire region ¹²

Capacity (MW)	Rainy Season	Dry Season	
TchiMbéle	68.4		
Kinguele	57.6		

¹² SEEG investment report 1997-2008

Total hyrdoelectric	126	54%	70	40%
Total Thermique	107	46%	107	60%
Total MW	233	100%	177	100%

22. SEEG is reumunerated for their service directly via the electricity and water rates paid by the end user. These are fixed by the State after negotiation with SEEG and are subject to change. They are fixed on a progressive basis (i.e. the larger uses pay disproportionately more per KWh. The costs of electricity production are less for hydroelectricity than for thermal electricity and Gabon's energy strategy highlights the need to develop its hydro power capacity.

Protected area system: Current status and coverage

23. Gabon's forests represent a little more than 22 million hectares¹³, divided into two types of uses: permanent forest domain and rural forest domain (DFR). The forest domain includes about 13 million hectares which are considered production forests (including Forest Concessions under Sustainable Management (FCSM) and small-scale logging permits. Protected areas (national parks) represent about 3 million hectares and the remaining 5 to 6 million hectares are the Rural Forestry Domain.

24. The network of 13 national parks covering over 3 million hectares (10.6% of the country's surface area) was created by presidential decree in August of 2002 following a national evaluation of priorities. All knowledge of forest regugia, predictions in sea level rise, resilience to climate change, botanical diversity, presence of large mammals, diversity of birds, reptiles, amphibians and fish etc... were assessed during this evaluation, which also included an assessment of the potential for logging or mining and for human activities.

Table 2: The National Parks of Gabon¹⁴

Park	Reference in the decree to create the park	Province	Area (Ha)	Comments
Akanda	608/PR/MEFEPEPN of 30 th August 2002	Estuaire	53,780	Largest concentration of migratory birds in Gabon
Birougou	610/PR/MEFEPEPN of 30 th August 2002	Ngounie; Ogooué -lolo	69,021	Mountainous terrain, rich forest refuge
Ivindo	612/PR/MEFEPEPN of 30 th August 2002	Ogooué-Ivindo; Ogooué -lolo	300,274	Large elephant and gorilla populations, impressive waterfalls
Loango	613/PR/MEFEPEPN of 30 th August 2002	Ogooué– maritime	155,224	Elephants on the beach, hippos surfing in the waves and hump backed whales
Lope	607/PR/MEFEPEPN of 30 th August 2002	Ogooué-Ivindo; Ogooué –lolo; Moyen Ogooué- Ngounie	491,291	Highest mandrill concentrations in Africa, human presence dating over 400,000 years
Mayumba	614/PR/MEFEPEPN	Nyanga	97,163	Best site in the world for

¹³ Forests of the Congo Basin. State of the forests, 2006

¹⁴ National Parks Law, 2007

	of 30 th August 2002			leather back turtles nesting
Minkebe	615/PR/MEFEPEPN of 30 th August 2002	Woleu-Ntem; Ogooué-Ivindo	756,669	Inselbergs, the largest uninhabited forest block in Gabon
Monts de Cristal	611/PR/MEFEPEPN of 30 th August 2002	Estuaire; Woleu-Ntem	119,636	Highest forest plant diversity in Africa
Moukalaba-Doudou	616/PR/MEFEPEPN of 30 th August 2002	Nyanga; Ogooué-maritime	449,548	High faunal diversity including the highest densities of Gorillas
Mwagne	617/PR/MEFEPEPN of 30 th August 2002	Ogooué-Ivindo	116,475	The largest bai in Gabon where there are abundant elephants and gorillas
Plateaux Bateke	609/PR/MEFEPEPN of 30 th August 2002	Haut-Ogooué	204,854	High bird diversity, habituated gorillas
Pongara	618/PR/MEFEPEPN of 30 th August 2002	Estuaire	92,969	Beautiful beaches and mangroves opposite Libreville
Waka	619/PR/MEFEPEPN of 30 th August 2002	Ngounie	106,938	100km long faille in the heart of the country
Total area			3,013,842	

Map 5: Map of Gabon's National Parks



25. Under the new National Parks Law, these parks were put under the control of the National Agency in charge of National Parks (ANPN) under the authority of the Ministry of Tourism and National Parks. Designation of national parks is a key component of the Gabonese forest policy to preserve fauna and biodiversity and develop ecotourism. A project is underway to strengthen the national park network with GEF funding (Component 2 of the project “Strengthening capacity for managing national parks and biodiversity”). This will involve the identification of additional sites, particularly cultural sites, in order to increase the area of the network from 3 million to 4 million hectares (up to 17% of the Gabon’s territory¹⁵). Marine reserves will also be created.

26. Some National Parks are subject to forest and other habitat degradation regardless of their protected status. The ANPN faces serious challenges related to law enforcement on the ground, lack of coordination among the various ministries, insufficient control of illegal logging and poaching, lack of field technical capacities, and lack of funding. Management plans only exist for a handful of parks (Moukalaba-Doudou, Lope, and Plateaux Bateke) and viability of these protected areas depends on the national capacity to develop a sustainable funding strategy. PES provides a potentially viable component.

27. The ANPN is funded through contributions from Central Government and through external donors. It has a total annual operating budget of \$650,000 (plus an investment fund of \$3.4 million) and a staff of c.25 (25 park managers and around 10 central office staff). Existing sources of revenue include Central Government, the World Bank, AFD (French Development Agency), ECOFAC (European Union), USAID/CARPE, etc. The ANPN does generate some of its annual operating and investment funds from its own collection of fees and other self generated sources of revenue (concessions, tourism, etc.). However, the number of parks where this occurs is limited and there is currently no nationwide evaluation of these resources.

Institutional context

28. Forest management in Gabon is highly centralized and characterized by the strong presence of the State, which exclusively owns all forests (including soil and sub soil, rivers and streams etc...). A process of decentralization was initiated in 1996 but never really materialized. Currently all exploitation of natural resources requires a permit or concession that can be attributed only by the central government.

29. It was highlighted in the legal and institutional review carried out in the PPG that despite the fact that the State owns the forests, there are several different government departments who have jurisdiction over various parts of the forest domain. This jurisdictional complexity is a barrier to effective coordination and communication between the various departments and as a result, roles and responsibilities often remain unclear. The main ministries that impact on the forest domain include: the Ministry of Environment, Nature Protection and Sustainable Development; the Ministry for Forest Economy, Water and Fishing; the Ministry of Agriculture, Animal Husbandry, Food Security and Rural Development; the Ministry of Tourism and National Parks; the Ministry of Energy, Hydraulic Resources and New Energies; and the Ministry of Mines and Hydrocarbons. There is no hierarchy among the different ministries and currently no institutions have been established to identify and resolve conflicts of interest. Resultantly, personalities and relationships with the presidency have played a primary role such that when major conflicts of interest arise, decisions have to be made at the level of the Presidency. An institutional approach is likely to provide for more efficient communication and decision making.

30. The Mbé watershed includes a National Park, logging company concessions, mining concessions, areas managed by the hydroelectric dam operator, villages and rural forest domain. The diversity of these

¹⁵ Forests of the Congo Basin. State of the Forests, 2006

management responsibilities complicates the goals of good forest management. A brief overview is given below:

31. The Ministry of Environment, Nature Protection and Sustainable Development develops and implements environmental policy. The Ministry works across all sectors and coordinates all environmental impact studies. The Ministry for Forest Economy, Water and Fishing covers all policies relating to forestry and fishing. This Ministry is also responsible for attributing forest concessions and hunting permits and ensuring that these forest concessions abide by the forestry code which emphasizes sustainable forest management. The Ministry of Mines and Hydrocarbons governs the mining and hydrocarbon sectors and also ensures that they do not have a negative impact on the environment. The Ministry of Agriculture, Animal Husbandry, Food Security and Rural Development puts in place any policy with regards to agriculture and animal husbandry and again places emphasis on sustainability and minimizing environmental impacts. The National Parks Agency (ANPN), under the Ministry of Tourism and National Parks is responsible for the management of the National Park network. Finally, the Ministry of Energy, Hydraulic Resources and New Energies assures the distribution of water and electricity for the nation and is the ministry responsible for negotiating and overseeing the SEEG concession.

32. Given all these institutions have jurisdiction over certain parts of the watershed, and that the Mbé watershed is not a recognized management unit in Gabon, one clear barrier to project success will be the establishment of a system for increased coordination among these entities. For example, each has different and sometimes conflicting objectives with regard to watershed management:

- Commercial for the forest and mining companies
- Conservation for the ANPN
- Subsistence for village communities.

33. Current technical capacities for effective forest management are weak due to lack of resources and investment and there is a poor understanding of the concept of payments for ecosystem services. Other cross cutting projects and initiatives currently underway in Gabon may provide insight into dealing with this institutional complexity. For example, in 2007, a National Commission for Sustainable Development (CNDD) was created and in 2008 a national designated authority was created to register Gabon's clean development mechanism (CDM) projects under the Kyoto protocol. Both these organs are inter-ministerial and housed by the Ministry of Environment. The National Commission on Sustainable Development (CNDD) is also expected to be a platform for discussion and dialogue between governmental institutions, representatives of NGOs, and the private sector. This entity is not operational yet, but could perhaps include a "PES institution" which could facilitate not only the management activities of the watershed, but also the contract negotiations, regulations, management and monitoring that are necessary in any given PES scheme. This project will work closely with the Ministry of Environment to learn from these existing initiatives aimed at facilitating inter-ministerial collaboration.

Policy and Legislative Context

34. Gabon has a clear political commitment towards conservation of tropical forests. This has been shown by the creation of 13 the National Parks in 2002, as well as policy reforms to develop a strong governance for forest management since the 1990s. There is also a recognition of the importance of environmental services in policy and strategy documents.

35. The Environmental Action Plan (PNAE) defines Gabon's priorities for environmental protection and was adopted by the Council of Ministers in March 2000. This first environmental strategy document outlined several important themes, including the production of environmental goods and services. Although this theme was largely focused around waste management, the strategy did recommend carrying

out an inventory of these local and global environmental services and to study their vulnerability to climatic change.

36. In May 2004, the government adopted a Letter of Sector Policy which sets out the governance and policy reform agenda for increasing the contribution of natural resources to economic diversification and poverty alleviation in a sustainable manner. The Letter of Policy sets out a strategy for the forestry, fishing, biodiversity and environmental sectors and puts emphasis on greater transparency and law enforcement. Recognizing that environmental goods and services are almost completely unexploited in Gabon, the strategy for the environment sector calls for an increase in their perceived and financial value.

37. This Letter of Policy provided the rationale for Gabon's Forest and Environment Sector Program (PSFE). The long term objective of the PSFE program is to help the country move away from oil dependency and to diversify the national economy on the basis of sustainable management of forests, fisheries and biodiversity resources. The PSFE is a national cross sector program prepared by the government of Gabon to support a set of policy reforms and capacity building efforts that are key to achieve the overarching objective.

The PSFE program comprises 5 components:

PSFE Component 1	Sustainable forest management including wildlife in production landscapes
PSFE Component 2	Fisheries and coastal zone management
PSFE Component 3	Development of the National Parks network
PSFE Component 4	Valorization of other environmental goods and services
PSFE Component 5	Institutional strengthening, research and training

38. The legal and insitutional review carried out emphasised that although the importance of environmental services is recognized in certain policy documents, they are not defined in national legislation and as such it is unclear who has the right to buy and sell them. There is however a strong legal framework for environmental protection which is seen by the numeous texts highlighting the important of sustainable management of resources and conservtaion of biodiversity. It should be noted that governance and law enforcement capacity are weak and although policy and legislation are strong in principle, the political will to enforce it legislation is sometimes lacking.

39. Environmental protection: There is an abundant legislation for environmental protection and sustainable development. Key laws and codes dealing with environmental protection are listed below

- i. The Constitution as amended in 1991
- ii. Environmental Code (Law No. 16/93 of 26 August 1993) relative to the protection and the improvement of the environment. It contains 5 titles: title I deals with the general provisions; title II with natural resources; title III with pollution and nuisance; title IV covers the common provisions; and finally title V includes the final provisions.
- iii. Forestry Code (Law No.16/01 of 31 December 2001) pertaining to the Forest Law. This law contains 2 titles. Title I covers the general principles and title II is divided into 10 chapters dealing specifically with forestry and wildlife development, wood industrialization development, marketing and promotion of forest products, economic and financial and social dispositions, and customary rights, repressive and various provisions and finally transitory and final provisions.
- iv. National Parks Law (Law No. 3/2007 of 27 August 2007) related to the National Parks and the creation of the National Parks Agency. It is composed of 9 titles: title I deals with the general provisions, title II with the principles; title III with the institutional framework; title IV with the Commissioner and the local management consultative committee; title V

concerns the resources and financing; title VI the repressive provisions, title VII the transitory provisions; title VIII the various provisions and finally title IX covers the final provisions.

- v. Mining Code (Law No. 5/2000 of 12 October 2000) pertaining to the Mining Law. It is composed of 15 titles: title I deals with general provisions; title II with prospection authorization ; title III with mining licenses; title IV refers to precious substances; title V to substances and radioactive materials or strategic substances; title VI deals with excavations and geophysical risers performed without a mining license; title VII covers restricted activity mining zones ; title VIII deals with relationships between holders of mining licenses and third parties; title IX with relationships between license holders and landowners ; title X with taxation; title XI concerns monitoring and control; title XII hygiene and safety in mines and quarries ; title XIII covers penal provisions; title XIV transitional provisions; and title XV contains the final provisions.

40. Although many of the laws and codes oblige resource users to protect the environment there are very few regulatory texts that provide important details. Some key normative laws are listed below:
- i. Decree No. 00019/PR/MEF of 9 January 2008 fixing the status of the National Agency of the National Parks. Article 2 specifies that the present provisions complete those of Law No. 003/2007 relative to the National Parks.
 - ii. Decree No. 744/PRMMEPRH of 22 September 2005 pertaining to projects of public interest and the creation of protection zones for water resources
 - iii. Decree No. 1028/PR/MEFEPEPN of 1 December 2004 fixing the conditions for the creation of community forests
 - iv. Decree No. 539/PR/MEFEPEPN of 15 July 2005 regulating Environmental Impact Studies namely for the application of the provisions of article 67 of Law No.16/93 of 26 August 1993 relative to the Protection and the Improvement of Environment.
 - v. Decree No. 686/PR/ MEFPEPEPN of 24 August 2004 defining the technical normes for the sustainable management of production forests.
 - vi. Decree No. 692/PR/ MEFPEPEPN of 24 August 2004 fixing the conditions of the customary user rights relating to forests, wildlife, hunting and fishing
 - vii. Decree No. 192/PR of 4 March 1987 rregultaing the customary user rights.

41. This legal review suggests that, although, there are no texts which mention environmental services or PES directly, there are no major legal obstacles to developing such a scheme. Some key legal elements relating to the development of a PES scheme in the Mbé watershed are outlined below.

42. Land Tenure and User Rights:

- i. All forests are part of the national forest domain and owned by the state (Law 016/01, Article 13)
- ii. National Parks, created under the National Parks Law (Law 3/2007), are also part of the national forest domain (Article 4). Therefore, no activities which are not aligned with the park objectives can be carried out in the parks.
- iii. There are two systems of land ownership in Gabon: formal ownership, which involves applying for a land title, and customary ownership, recognised by the customary village chiefs and communities, but not officially recognised by the state. Currently, in rural areas, less than 1% of the parcels have a land title, due to the prohibitive costs in applying for such formal titles. Given the importance of secure land tenure as pre-requisite for PES schemes, the current land tenure context poses a barrier to PES development.

- iv. Local communities living traditionally and close to gazetted forests have customary rights to use the resources for subsistence (hunting, fishing, and logging) and for the use of medicinal plants (Article 1 of Decree No. 4 of 192/PR/MEFCR).
 - v. The forestry code (Law 16/01, Article 156) provides for the creation of community forests for rural populations, representing about 6 million hectares for multiple uses: community protected areas; sacred forests; hunting; gathering; agriculture; livestock; mining activities etc. This governmental action aims at involving rural communities in good management of natural resources, optimizing exploitation of national forest resources and reducing poverty by ensuring that rural communities benefit from forest resources revenues.
 - vi. The national parks law (Law No. 3/2007, article 16) provides the legal basis for the attribution for the ANPN to issue land management contracts to local communities in the peripheral zone of a national park for economic gain. These contracts can be for monitoring, management and cultural and tourism activities (Article 19), the extent to which will depend on the details of the contracts.
 - vii. Both the provisions for the creation of community forests and the land management contracts in peripheral zones of national parks, will provide important avenues to be explored in the development of a PES scheme involving the local communities.
43. Electricity and Water supply: Law 8/93 of April 7th 1993 provides the legal basis for the production, transport and distribution of drinking water and electricity. This activity is monopolized by the state but concession holders can assume this role as is the case in the Mbé watershed where SEEG has a 20 year concession to operate the two dams.
44. Watershed protection: There is very little in the legislation on water protection. However, there is one interesting piece of legislation dealing with watershed protection. Decree n° 744/PR/MMEPRH of 22nd September 2005 makes provisions for the creation of a protection zone for water resources for human consumption or for hydroelectricity. This zone can be created around an important source of water and can apply to some or the entire watershed, the aim being to protect the quality and quantity of water. The delimitation of the zone is not automatic. The zone must first be declared a zone of public interest either at the initiative of the State or the concession holder which will allow the restriction of certain activities in the zone if there is a risk that they will have a negative impact on the water resource. The Decree also notes the need for compensation of actors having that negative impact. The decree is currently not being implemented and PES could be favorably combined with this command-and control tool to provide the financial incentives and means to compensate the upstream stakeholders.
45. Gabon is also currently working on a new Environment Code and Water code. The proposed project will work closely within this process when working to establish an enabling legal and institutional framework for PES.

THREATS, ROOT CAUSES AND IMPACTS

46. Despite the favorable policy and legislative framework for environmental protection and biodiversity conservation, the Mbé watershed remains threatened. This is largely due to a lack of law enforcement and institutional capacity to regulate the various ongoing activities in the watershed. No system currently exists for rational land-use planning that reconciles various land uses with nationally and globally important protection of environmental services. Logging, mining, hunting, and agricultural interests are left to respond to market forces in their particular areas. The role of the National Park, local communities, and logging and mining concession-holders in providing ecosystem services (such as electricity production and water provision for the utilities and the residents of Libreville) is not being recognized and rewarded.

47. The Mbé watershed faces the following main threats:

- i. **Forestry:** There are 4 logging concessions in the watershed, all of which present a large threat to its integrity. The soils in the watershed are fragile and removal of forest cover, especially on steep slopes and near rivers leads to increased sedimentation and a reduction in water quality (Picture 1). Although the Forestry Code of 2001 requires concession holders to have a management plan within 3 years of obtaining the permit, none of the 4 companies in the watershed have begun to develop these, none plan to become FSC certified nor use reduced impact logging (RIL) techniques. FSC certification would require them to leave buffer zones around water courses and not cut on steep slopes. The reason that companies do not abide by the law is partly due to the high costs in developing the management plans, but also due to the fact that there is currently little capacity to enforce the forestry regulations. As a result few companies adhere to them. It is thought that certification and RIL will be equally as profitable for the company in the long term, but in the short term it means reduced revenues and high start up costs. There is also pressure to increase logging intensity in order to compensate for declining oil revenues and poor governance of the forest estate leads to non transparent allocation of concessions with insufficient consultation with local stakeholders.

Picture 1: Sedimentation of rivers as a result of poor logging techniques



- ii. **Mining:** the Mountains of Monts de Cristal are rich in minerals and there are potentially large deposits of gold, diamonds, iron and platinum. The entire watershed is covered by two exploratory mining permits (one for iron and one for platinum). Gold is currently being exploited by artisanal gold miners from outside of the region. All mining activity risks impacting biodiversity and watershed services. In particular, gold mining increases sediment load in rivers which has a negative impact on the hydroelectric dams and on aquatic biodiversity. Other negative impacts result from deforestation, road building and industrial and domestic pollution. The potential threat from mining activities is high and results largely from a lack of transparency in the attribution of permits. Permitting is often done without consultation with the relevant wildlife / protected areas authorities and results in exploitation in biologically sensitive zones. Mining also has the potential to be lucrative and there is therefore weak political support for retracting mining permits in favor of biodiversity conservation. There is also a lack of capacity to ensure that all companies abide by the stringent environmental regulations including conducting an environmental impact assessment.

- iii. **Hunting:** Subsistence and commercial hunting threatens the biodiversity of the Mbé watershed. A recent survey¹⁶ showed an average hunting sign (cartridges and snares) encounter rate of 0.74 in the zone (relatively high in comparison to other National Parks in Gabon), and a concentration of hunting around the villages. Hunting is carried out by local villagers as well as workers of the forestry, mining and hydroelectric companies and the military stationed at the military base. It is also thought that hunters also come across the border from Equatorial Guinea to hunt in the zone. There are several root causes for this hunting. There are weak property rights for wildlife resources and given the fact there is very little law enforcement in the park or its periphery, there is effectively a situation of open access to the wildlife resources. The companies operating in the zone do not sanction their workers who hunt. This is compounded by the close proximity (3 hours) and reasonably good roads to the urban centres of Libreville, Medouneu, Ntoum and Kango. This area is the primary source of bushmeat for these markets. For the local communities living in the watershed who have little access to alternatives, bushmeat is an important source of protein and revenue. The results of the 2006 survey show that wildlife presence is negatively correlated with human presence and that populations have been depleted in the lowland areas of the zone and along the national road. There are also reduced wildlife populations within the Mbé sector of the park around the sites of the two hydroelectric dams.

Picture 2: Plantations in the Mbé Watershed



- iv. **Agriculture:** The local populations carry out subsistence farming mainly for manioc, bananas, pineapple, peanuts, yams, sweet potato etc... In general, this agriculture is currently small scale but there is threat that commercial agriculture will further develop in the region given its proximity to the urban markets. Agriculture leads to deforestation and degradation of the forest (Picture 2). In other areas of Gabon, the pattern has been for agricultural development to move in once the smaller forestry companies have left after removing the commercially viable species. This pattern leads to an opening up of the forests, particularly surrounding villages and along roads.

48. Since Gabon has a low human population density in rural areas, these threats, while serious (because of the commercial nature of the exploitation), have not yet pushed natural resource

¹⁶ Aba'a 2006 «Abondance relative des grands mammifères et des activités humaines au parc national des monts de cristal et sa périphérie »

impoverishment to the point of “no return” as has occurred in many forested areas in West Africa. Gabon is therefore in the unusual position of being able to act before it is too late. However, as pressure on the natural resources increases and environmental protection remains largely funded by short term interventions from external donors there is a high risk that this situation could change. Wunder (2007)¹⁷ notes that PES arrangements will often be “best suited to scenarios of moderate conservation opportunity costs on marginal lands and in settings with emerging, not-yet-realized threats.”

LONG-TERM SOLUTION AND BARRIERS TO ACHIEVING THE SOLUTION

49. The **long-term solution** for the conservation of the Mbé watershed’s biodiversity and ecosystem services is to ensure that sufficient financial resources are available to cover PA (Mont de Cristal National Park, for instance) management costs and remunerate the various actors (including local communities) that help in maintaining environmental services and preserving biodiversity. Developing a market for these services being generated by conservation managers, local authorities and local communities will help influence the cost-benefit calculus underlying land use decisions in the watershed in favor of preserving ecosystem services and their associated biodiversity.

50. What would a PES scheme in the Mbe watershed look like?

The work carried out during the PPG showed that such scheme would include the following five components:

- a) **The identification of who would receive the payments, ie who are the providers:** For example forest concessions, individuals or associations of rural farmers, Direction generale de l’environnement, and agence national des parcs nationaux.
- b) **The understanding of what would they be paid for,** namely for maintaining, improving or adopting conservation-friendly land, water and forest practices that result in the provision of important environmental services (water).
- c) **The identification of who would pay (beneficiary):** this could be from either local sources, such as the water users or from global beneficiaries of the biodiversity and carbon sequestration services. In the context of Gabon such payments could come from the electricity utility company (SEEG) based in the watershed. This step would involve assessments of motivations and key barriers to major beneficiaries’ engagement in PES as well as their willingness to pay.
- d) **Identification of an institutional framework to manage the funds:** as outlined above, a governance structure/framework is to be established that would include government agencies in charge of the management of the Mbé watershed plus representatives of local communities and buyers. This structure would ensure funds are used to support conservation of the watershed and support projects to improve communities’ livelihoods. A clear set of criteria would be defined for the selection of the Board along with its roles and responsibilities and their terms of service.
- e) **Identification of payment mechanisms options that fit in the Gabon socioeconomic context.** Payments options have to be approved by all stakeholders through a participatory process. Through a participatory process, the different mechanisms for revenue distribution amongst the

¹⁷ Wunder, S. 2007. The efficiency of payments for environmental services in tropical conservation. *Conservation Biology*. 21(1):48-58.

local communities need be developed. These could include in kind payments for alternative livelihood activities (such as bee keeping) or local construction projects, or direct payments.

51. The long-term solution will depend on the adequate capacities of key management agencies to identify the environmental services and focus suitable management efforts on protecting them. The following key barriers are preventing the emergence and operation of the above long term solution.

Barrier 1: Lack of legal and policy framework and low institutional capacity

52. The legislative, policy and institutional foundation for supporting financial payments to providers of ecosystem services is incomplete.

53. Legal and policy aspects

54. Although the basis for such a system is framed in the legislation, specific regulations will be necessary to harmonize policy and legislation in order to implement a PES project. As mentioned earlier, the legal framework exists for biodiversity and environmental protection, but not specifically for watershed protection and although environmental services are mentioned in some strategy documents, the legal framework required for an effective PES scheme to be piloted is missing. In addition, the project will work with existing initiatives in Gabon to work towards clarifying land tenure. Additionally, land use rights lack clarity and clear use rights are essential to any PES system.

55. Institutional aspects

56. Designing a PES program requires navigating through a complex regulatory maze created by multiple government agencies responsible for environmental regulations, policies, and programs. Clarifying the relationships between these entities is essential to PES program design. Each agency has its own regulatory mission, and none include the design of novel, market-like solutions to environmental problems. Finding a way through this kind of regulatory maze is essential to reduce the risks for both the agencies and private sectors, reduce transaction costs, and ensure broad participation in any PES program.

57. There are many government departments involved, who have overlapping jurisdictions, and effective coordination and information exchange structures to promote information sharing and synergies among government agencies and key stakeholders will be important.

58. An institutional framework will be necessary to achieve concrete steps towards a pilot project and once that framework is in place, institutional capacity will be needed to understand and manage the complex process. As described above, various institutions have responsibility over activities in the watershed. There is currently no platform for dialogue and coordination amongst these different government bodies, or recognition of the watershed as a management unit.

59. Capacity building and lesson learning

60. High human and institutional capacities can be key requirements for effective PES design. Therefore, the credibility of PES schemes in Gabon will hinge on the existence of sufficient technical capacity to design, negotiate contracts, implement and monitor project outcomes rather than relying on foreign experts or consultants. There is a general weak awareness and understanding of PES mechanisms and its potential benefits amongst high level decision makers, ministries and in the private sector.

61. While not new in other parts of the world, PES is a new approach to mobilizing finance for conservation in Gabon. Key stakeholders are unfamiliar with the potential of such innovative mechanisms. Information, knowledge and expertise on payment for ecosystem services (PES) and other

mechanisms for generating financial returns are not available among protected area managers and other management bodies.

Barrier 2: Limited knowledge of the ecological and economic values of the watershed and the services it provides

62. Currently, the scale and economic value of ecosystem services in the watershed remain unknown. Without a thorough assessment of these values, a mechanism based on payments for their maintenance will be difficult to put in place. Should such a system come into being, some upstream land users may continue to face barriers to adoption of alternative practices as they lack the technical skills for better stewardship. The knowledge limitations include the lack of any business planning capacity and the lack of understanding of the form that various contracts will take.

63. Following Wunder's definition of PES (as described in the introduction), a PES scheme is a voluntary transaction where at least one payer makes a payment to at least one provider, conditional on the provision of a well-defined, continuously provided ecosystem service or of an ecosystem-use likely to secure that service. Therefore, in order to set up a pilot scheme, these criteria need to be outlined. Below is an outline of the necessary steps to design a PES scheme for the Mbé watershed.

- *Building a constituency for PES in the Mbé*

64. The major stakeholders were identified as part of the PPG (see next section) and work has begun to build a national constituency for PES in Gabon. There is now political support of PES amongst key government departments but, in order to develop a PES scheme in the Mbé watershed, more work will be required engaging the potential buyers and sellers and ensuring all stakeholders (including other government ministries and local communities) are aware of the concept of PES and how it could be used in the Mbé. Stakeholders such as SEEG are aware of linkages between their core operations and critical watershed services on which they rely, but still consider it an open access resource. Raising the awareness of the potentials of PES as a risk mitigation investment is critical to foster cooperation between buyers and sellers of ecosystem services. This is particularly true for the local stakeholders in the watershed.

- *Undertake technical studies in the targeted geographic area*

65. There are very little existing hydrological data which would allow us to measure the watershed services. For example, SEEG measure neither the quality of water passing through their turbines, nor the levels of sedimentation in the reservoirs. It has therefore not been possible to evaluate the trends or establish a baseline of these factors. Whilst the baseline is not essential to establishing the project, it will be necessary to set up an effective monitoring system capable of monitoring these factors over time. There have also been no studies carried out in the Mbé watershed, or elsewhere in Gabon to show the impacts of different land uses on watershed service provision. The public perception is that forests are good for the water environment, that they increase rainfall and runoff, regulate flows, reduce erosion, reduce floods, and improve water quality (Calder, 2007). However, the links between land use changes and watershed services are complex and vary with types of forest (Calder, 2007).

- *Designing the payment mechanism and negotiating contracts*

66. The mechanism will need to address the following 4 aspects: how are payment levels determined, how are payments transferred from buyers to sellers, what is the unit and timing of the payments, and how is contract performance monitored and enforced? (Porrás et al. 2008)¹⁸. Whilst we have given an outline

¹⁸ Porrás et al. 2008. All That Glitters: A Review of Payments for Watershed Services in Developing countries. Natural Resource Issues No. 11. International Institute for Environment and Development.

of how we envisage the scheme could look, these aspects will need to be studied and discussed with project stakeholders in more detail. Another aspect to be considered will be the spatial targeting of the payments to ensure that the scheme efficiently achieves its conservation objectives. This is particularly true for the land management contracts with the local communities for activities in the peripheral zone of the park.

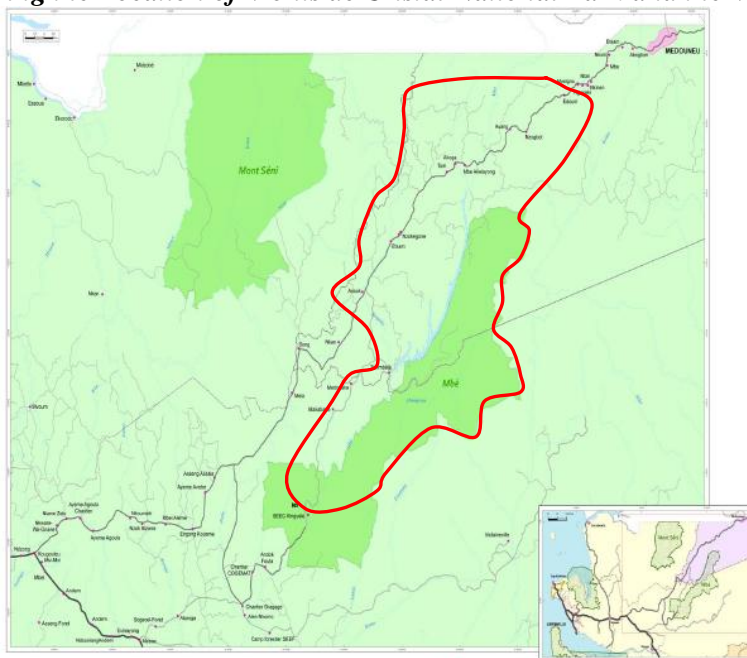
- *Develop a monitoring and evaluation system*

67. This will be essential if this heretofore untested approach in the Gabon context is to be effectively internalized. Specifically, a monitoring and evaluation mechanism should be in place to measure (a) performance of project milestones and indicators, (b) on-the-ground monitoring of environmental services contracts compliance and (c) site specific monitoring of land use changes and impacts and environmental services produced including baseline assessments.

INTRODUCTION TO PROJECT SITE INTERVENTIONS

68. The proposed project has been designed to address these barriers to developing a long-term source of funding for the Mbé watershed based on payments for the ecosystem services provided to the capital city of Libreville and surrounding areas. With GEF support to the start up costs, the parties will be able to design a PES scheme – for adoption by contract – which ensures that the quantity and quality of water provided by the watershed is maintained. In exchange, Monts de Cristal NP, management bodies, local communities and other stakeholders will receive financial resources to invest in management activities that lead to further protection of this valuable resource.

Map 1: showing the Location of Monts de Cristal National Park and the Mbé watershed



The Mbé River watershed

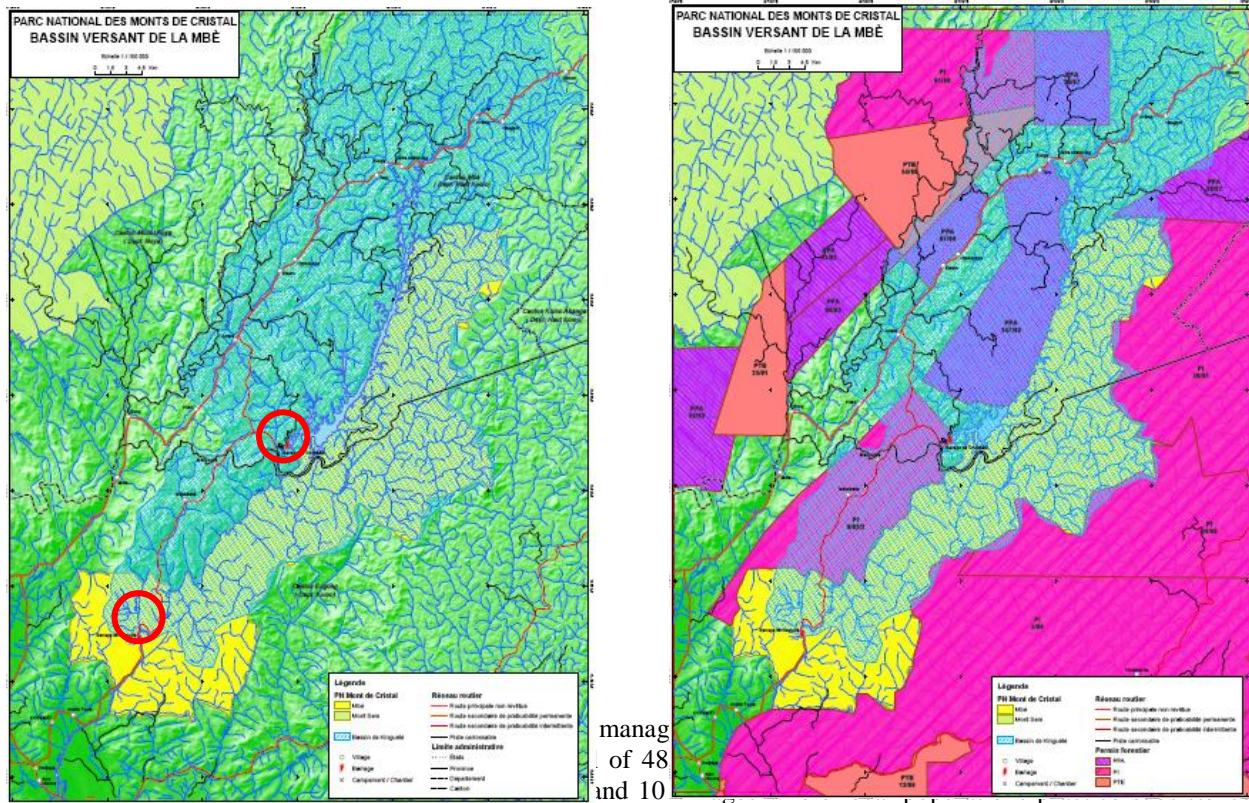
69. The Mbé River watershed is found in the Northeast of Gabon and includes the Mbé section of the Monts de Cristal National Park (Map 1). The Mbé watershed is approximately 160,000 ha in size. It is

one of the most biologically diverse sites in Central Africa and is of global conservation significance. Its unique status within the region comes from its unusual topography, high-rainfall and its position between major biogeographical regions. These factors have isolated the landscape and ensured habitat stability throughout the last ice-age when most forests of the region dried out and became savannahs. As a result of its long period of isolation and stability, the Mbé watershed is one of the oldest forests in all of Africa harboring a unique assemblage of species with extremely high endemism. Surveys over the last four years rank the area as having exceptional regional and global significance for plant species and highlight its potential to resist on-going and future climate change. Studies of the orchid family alone confirm a wealth of diversity and endemism with numerous species new to science still being described. Studies of tree species have also recorded extraordinary diversity and richness. A recent study concluded “without question, particularly when compared with other humid tropical forests in Africa, the Monts de Cristal (Mbé watershed) exhibits high levels of species richness. In terms of numbers of species per hectare it is the richest site in Africa assessed to date. The high levels of both alpha and beta diversity are remarkable.... the (area is) undoubtedly one of the most important sites for plant diversity in Central Africa.”¹⁹

70. During the PPG the watershed was assessed according to the services it provides. The focus of the study was on the watershed services required for downstream electricity production and the watershed was therefore mapped in order to get baseline information of the limits of the hydrological network which feeds into the two dams operated by SEEG (see Map 2a). Two dams are operated by SEEG and these are both shown in red on the map. The watershed was also mapped according to management systems, which include the national park, logging concessions (Map 2a and 2b), mining concessions (Map 3) and villages (Map 2). From these maps, it becomes clear that around one third of the watershed falls within the Mbé sector of the national park, one third within forestry concessions and one third lies within the rural forest domain. As outlined below, the rural forest domain has not been clearly defined or zoned and it was therefore not possible to map village zones or agricultural areas. The two mining concessions overlap with the other management systems and cover the entire area.

¹⁹ Sunderland, T., G. Walters & Y. Issembe (2004). A preliminary vegetation assessment of the Mbe National Park, Monts de Cristal, Gabon. A report for the Central African Regional Program for the Environment (CARPE)

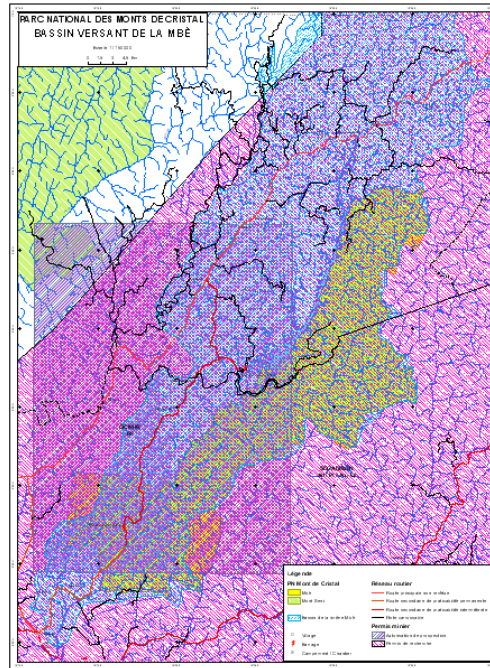
Map 2: Map of the Watershed and Forest Management units



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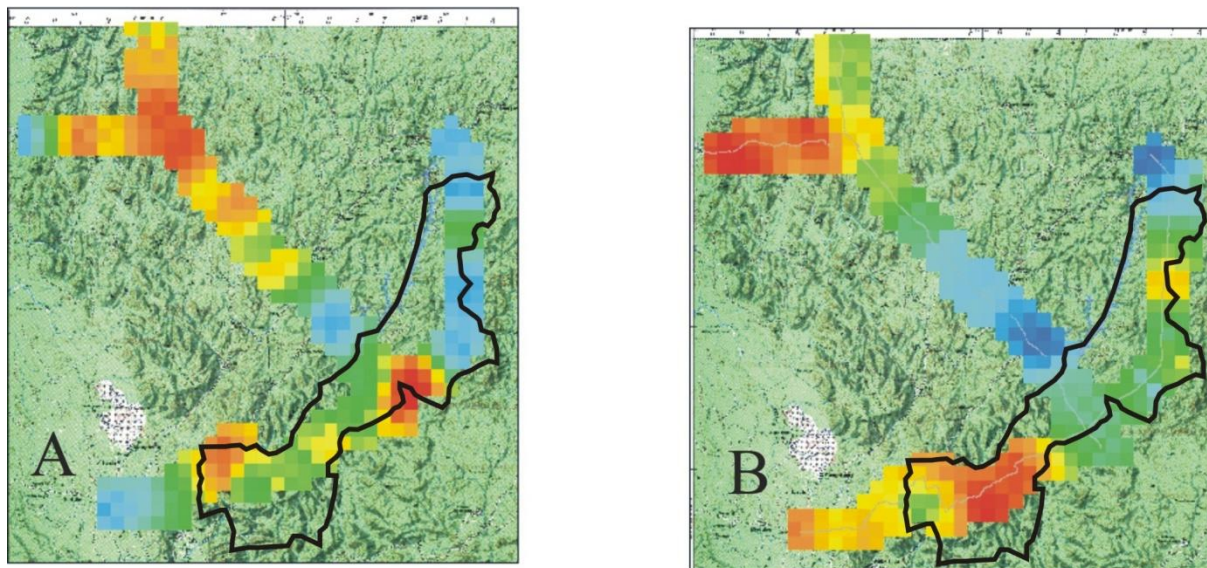
agriculture and both subsistence and commercial hunting. Two mining concessions also entirely cover the watershed. The watershed is also characterized by the existence of two hydroelectric dams conceded to Société d’Energie et d’Eau du Gabon (SEEG). The left hand map shows the outline of the watershed, and hydrology network. The red circles highlight the position of the two hydroelectric dams. The yellow zone on both maps represents the Mbé section of the National Park, the villages are located along the main rd (in red). The right hand map shows the distribution of the forestry concessions within the watershed.

Map 3: Mining concessions in the Mbé Watershed



71. Biodiversity in the watershed was also investigated. As described above, the watershed is well known for its botanical richness and a preliminary analysis of existing botanical data allows us to compare botanical biodiversity in different parts of the watershed for which there are data. For example, Map 4 below shows the density of two botanical species.

Map 4: The two maps below show the density of Begonias (A) and Caesalpinioideae (B) along the Mega-transects: Red means a high abundance and blue low. Source: WCS Gabon



72. However this preliminary analysis of existing botanical data shows that there is not enough data to map biodiversity on the scale of the entire Mbe watershed. Most of the areas surveyed have been done within the park and it is difficult to extrapolate the transect and plot data to evaluate biodiversity across

the whole zone. However, by analyzing climatic and geographical data (rainfall, altitude and ruggedness) it is possible to split the watershed into various land-unit classifications (Figure 1) which represent a good proxy for habitat diversity in this complex landscape.

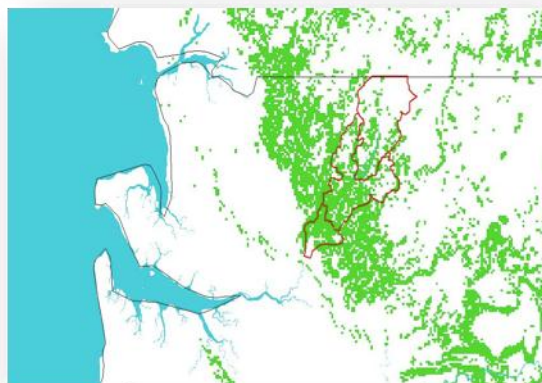
73. This allows for a more detailed analysis of biodiversity and resilience of the forest in the Mbé watershed to be made. Each section of the Mbé watershed exhibits a different set of land-units, which creates a typical environmental setting which may explain the level of plant biodiversity in each section and its resilience to global warming.

Figure 1: shows the eight different land-units overlapping the different environmental characteristics

		<i>rainfall</i>	
<i>altitude</i>	<i>ruggedness</i>	>2500mm	<2500mm
lowland	weak		
(500m>)	strong		
highland	weak		
(500m<)	strong		

74. The analysis allowed the watershed to be mapped according to habitat complexity (proxy for biodiversity and potential resilience to climate change). In the worst case scenario of the effects of global warming, the regional rainfall in tropical Africa may drop below the required minimum to sustain a so-called zonal rainforest. As regional drought stress increases, the persistence of a closed-canopy forest becomes highly dependent on local conditions determined by altitude, topography or relief. These geographical characteristics determine the amount and stability of soil moisture available for plants to survive when rainfall levels decrease. Accumulation of soil moisture is determined by topography. In rugged areas with steep slopes and steep valley bottoms rainfall is quickly drained, but when the valley bottom is gentle moisture will accumulate and slowly drain away. The latter is the case for the Monts de Cristal. Topography or the profile of the valley also determines the rate of moisture loss from evapotranspiration. In deep narrow valleys exposure to the sun is reduced and consequently the amount of water lost. Figure 2 shows that forest dieback caused by climate change is most like going to affect the Upper Mbé section as its ruggedness is weak and hence its resilience is low.

Figure 2: shows the location of postulated climatically stable forests in the Monts de Cristal, and the Mbé watershed.



The project target geographical area within the watershed

75. Map 1 shows the outline of the Mbé watershed and the management units/land tenure were mapped in more detail during the PPG (Maps 2a, 2b and 3). The project will take an incremental approach to protection of the watershed services. The target geographical area will therefore initially be limited to the Mbé sector of the National Park and its buffer zone. The decision to start with the National park and buffer zone is explicitly a ‘thin end of the wedge strategy’ as this area is important for the provision of the hydrological services and for biodiversity and, the institutional context makes it more conducive to a PES agreement. By establishing a successful and mutually acceptable pilot agreement, opportunities will later be created to expand the scheme to the more challenging contexts of forestry companies with high opportunity costs and local communities who do not yet have clear tenure over the rural forestry domain.

76. As mentioned in the situation analysis, this target zone makes up about one third of the entire watershed (54,781ha/160,649ha). Also described above, this National Park is essentially a paper park and the ANPN has very little capacity to assure its management. 2 mining concessions overlap with the park and pose a serious threat to its integrity were exploitation to begin. Article 12 of the National Parks Law states that if mineral resources are found within a national park, they can be exploited following declassification of the park. According to article 8 of the same law, this declassification can only be carried out if the gains are of a national interest. Taking into account the value of ecosystem services and demonstrating that the National Park can be managed with a sustainable source of revenue such as the proposed PES project are crucial in these kinds of decisions and providing a positive incentive for watershed protection.

77. The target area of the project as described above represents a third of the entire watershed. The park is known for its species richness and is one of the most botanically rich regions of Africa, and contains flagship species such as forest elephants, western lowland gorillas and chimpanzees. The park is also very scenic, and known for its beautiful mountains and flowing waterfalls. The protection of the park (in terms of forest cover especially) against the future threats is crucial for the maintenance of the watershed services. As it happens, the park is one of the most species rich zones within the watershed and therefore by ensuring its management, not only will watershed services be maintained but additional global environmental benefits of species conservation and Carbon sequestration (through forest cover) within the park will also be delivered.

78. Through component 1, the other areas within the watershed will also be targeted indirectly. Component 1, will work to strengthen the enabling environment for PES in Gabon and will therefore have benefits for the entire watershed. In particular, the work to clarify land tenure for the rural forest domain (one third of the watershed) and support the development of land management contracts with ANPN and the creation of community forests will be a pre-requisite to developing a PES scheme with the local communities in the Mbé watershed. Working to classify the watershed as a zone of public interest will also lead to greater recognition of its importance and the need for its protection. Component 2 activities are described more in detail below but will also indirectly target the rest of the watershed, through the stakeholder engagement and ecosystem service assessment.

The Mbé watershed ecosystem services

79. The ecosystem services of the Mbé watershed are numerous and include carbon sequestration, watershed services and biodiversity. Whilst, there are many ecosystem services provided by the Mbé watershed, the project will initially focus on the watershed (hydrological) services. Hydrological services constitute some of the most economically and socially valuable of the many ecosystem services provided by watersheds (Postel and Richter, 2003)²⁰. These services largely fall into four broad categories: water

²⁰ Postel, Sandra and Brian Richter. 2003. *Rivers for Life: Managing Water for People and Nature* (Washington, D.C.: Island Press).

filtration/purification; seasonal flow regulation; erosion and sedimentation control and habitat preservation. Unlike carbon and biodiversity which provide intangible and more global benefits, there is a clear local beneficiary and potential buyer of the watershed services of the Mbé, particularly in terms of water quality and quantity, and regulation of water flow. The hydrological services provided by the Mbé watershed, therefore, represent an opportunity to test the potential of PES as way of linking conservation and development in Gabon and providing a sustainable source of revenue for the National Park.

80. For the Mbé watershed case study, the services of most interest to the potential buyer are water quality (sedimentation) and quantity (a continual high year round flow). Water (quality and quantity) provided by the Mbé watershed is a strategic commodity for SEEG as it is the main factor of production of the electricity used in Libreville. Insufficient water or increased sediments in water will impose additional costs on the production of the electricity that in turn will have multiplier (additional) effects on the national economy. Forest cover can be used as a proxy for assessing hydrological services and biodiversity benefits. "Cloud forests" have an overall positive effect on water quantity and are capable of capturing atmospheric moisture because of their specific structures (Bruijnzeel, 1990 in Kiersch, 2000).²¹ Forests are also checkers of soil erosion. Protection is largely because of understory vegetation, litter, and the stabilising effect of the root network. On steep slopes, the net stabilizing effect of trees is usually positive and vegetation cover can prevent the occurrence of shallow landslides (Bruijnzeel, 1990, in Kiersch, 2000). Road construction may be a major cause for erosion during timber harvesting operations. In the USA, forest roads are estimated to account for 90 percent of the erosion caused by logging activities (Bruijnzeel, 1990, in Kiersch, 2000). The steep slopes in the Mbé watershed, coupled with the fragile soil suggest that removal of forest cover is likely to lead to increased sedimentation. These links will be important when it comes to engaging with SEEG and assessing the value of these services. Assessing the impacts of different land uses will also be crucial when determining the way contracts with upstream users should be designed, both in terms of the spatial distribution of payments and in terms of the value of the contracts.

81. *Water/Biodiversity services overlap:*

82. As outlined in the above section, the key services provided by the watershed are hydrological services but the watershed is also very important for other services, particularly biodiversity (species richness). There is a considerable degree of overlap between biodiversity and watershed services. Those areas which have highest water value are those immediately adjacent to and upstream of the two dams. These areas are the Mid and upper Mbé. Those that are the most botanically biodiverse are the areas that have been classified as the lower and mid Mbé. For large mammal species, the most important areas are the Mid Mbé. Therefore, although the proposed project will focus on the watershed services, biodiversity and carbon are both likely to persist through the protection of the forest cover.

83. A part of the project will evaluate the potential for bundling the watershed services with others services such as Carbon, biodiversity and ecotourism and include engaging with buyers of these other services. If a market can be identified for these other services, component 1 of the proposed project will also facilitate the development of a system which incorporates these other services.

84. By establishing the enabling environment for PES scheme(s) and testing and evaluating this in the Mbé watershed, the project will help place an economic value on watershed protection activities thereby altering the land use patterns of logging, mining, hunting, and agricultural interests in the watershed in ways that afford greater protection to the globally significant biodiversity harbored in the Mbé watershed. These global benefits would be further multiplied through the systematic evaluation of the roll-out of PES scheme(s) so as to identify lessons learned for further replication in similar contexts.

²¹ Kiersch, B (2000). Land use impacts on water resources: A literature review. A report for the FAO

STAKEHOLDER ANALYSIS

85. A stakeholder analysis was carried out during the PPG. A stakeholder analysis was also carried out as part of the pre-feasibility study. The analysis was done in two parts; the stakeholders harvesting the forest resources (and who could be thought of the potential service providers) and those who benefit from the services provided by the forest such as the national and global community and including the in-country private sector and local authorities benefitting from the electricity supply. The following table is a summary of the identified stakeholders with known interests in the implementation of this GEF project. They are subdivided into general categories (government, private sector, NGO, etc.) and characterized by their role and responsibility in the project. If this proposal is funded, these stakeholders will form the primary pool of collaborating partners for what is designed as a highly decentralized, collaborative, and transparent project management structure. For more detail please refer to the Stakeholder involvement plan in Section IV part IV.

86. From this stakeholder analysis the various possible PES schemes for the Mbé watershed were listed and analyzed in terms of potential revenue generation; likely willingness to pay; institutional complexity and likelihood of success; impact on biodiversity; level of risk, and; stakeholders involved. As described above the state ownership of the land means that the various state ministries and departments are key stakeholders and play a key role in the project. However, there are several roles the State could assume; (i) As owners of the land and by ensuring good management and reduced impacts that actors in the watershed have on the environmental services, could be considered a provider of those services (ii) As owners of the dams and all electricity infrastructure, as well as being responsible for providing electricity to Gabon, the state could also be considered a beneficiary of the watershed services, and therefore a buyer (iii) Or, should the role of the state be to facilitate and regulate a PES mechanism, set up between SEEG and local actors such as the national park managers, logging and mining companies and local communities. Figure 3 shows a summary of the potential schemes for the watershed in terms of potential buyers and sellers of the watershed services that were discussed with project partners.

87. SEEG has been identified as the most likely buyer. They are the only economic operator in the zone and primary beneficiaries of the watershed services. Not only might they be able to reduce operating costs by ensuring good quality water (reduced sedimentation), but their primary shareholders, Veolia, in their environmental charter outlines their commitment to protecting upstream natural resources and sustainable development. The proposed project therefore seeks to work with SEEG and explore ways in which make payments could be transferred to upstream land users to change their land use practices and assure continued watershed services.

88. The potential recipients will be the various upstream forest managers and include not only the National park, but also local populations and private logging companies who have tenure over parts of the river basin. Thus, those forest managers who can demonstrate good forest governance and with long term management plans are more likely to be able to benefit from the PES mechanism. As described in the project outline, the proposed project will initially work with the National Park managers.

Table 3: Steering Committee Members and Key stakeholders and roles and responsibilities

Stakeholders	Roles and Responsibilities
Government of Gabon	
The Ministry of Environment, nature protection and sustainable development	The Ministry of Environment will be responsible for the overall coordination of the project and main beneficiary of project activities. It will also be the president of the steering committee and the main government representative.
The Ministry of Forest Economy, Waters and	The Ministry for Forest Economy, Waters and Fishing will be a member of the steering committee and responsible for negotiations with the

Fishing	forestry companies.
Ministry of Mines and Hydrocarbons	The Ministry of Mines and Hydrocarbons governs the mining and hydrocarbon sectors and will therefore be responsible for negotiations with the mining companies. It will be on the steering committee.
The Ministry of Agriculture, Animal Husbandry, Food Security and Rural Development	The Ministry of Agriculture, Animal Husbandry, Food Security and Rural Development will oversee any activities relating to agriculture and rural development.
The National Parks Agency (ANPN), under the Ministry of Tourism and National Parks	The National Parks Agency (ANPN), under the Ministry of Tourism and National Parks is responsible for the management of the national park network. As park managers it will potentially be beneficiary of the revenue that is generated by a PES scheme.
Ministry of Energy, Hydraulic Resources and New Energies	The Ministry of Energy, Hydraulic Resources and New Energies assures the distribution of water and electricity for the nation and is the ministry responsible for negotiating and overseeing the SEEG concession.
Ministry of Economy, Finance, Budgets and Privatization	The Ministry of Economy, Finance, Budgets and Privatization will be a key member of the steering committee given its responsibility over contracts between the private sector and a public administration and also for environmental taxation.
Local Authorities	Local authority representatives will be members of the steering committee and responsible for overseeing activities carried out with the local communities.
Private Sector	
SEEG	As operator of the hydroelectric dam, and beneficiary of the SEEG will be an important stakeholder and potential buyer of the ES.
Forestry Companies	Forest companies are potential providers of the ES. Their role in the watershed is important as their activities have an important environmental impact. They will be part of the steering committee
Mining Companies	Mining companies are potential providers of the ES. Their role in the watershed is important as their activities have an environmental impact. They will be part of the steering committee
Civil Society	
Local communities	Inhabitants of the villages within the selected pilot project areas will be made aware of the issues and invited to take part in the decision making process. They will be represented in the local committees by village headmen and actively involved in the project activities. Their cooperation will be sought in implementing project activities including resource protection, alternative income development (ecotourism, organic agriculture), awareness raising, etc. The village headmen will be the main counterparts in linking the project objectives and activities to the needs of the people in the project area
Local elites	These are influential people who have vested interests in their region of origin, but who are often not permanently resident there. Often have strong influence over local resident populations. Will be involved in the project through the same venues as local authorities.
Local associations	Local associations based in the selected pilot project area will be invited to local committees and they will be encouraged to take active role in implementing project activities.
International NGOs (WCS)	International NGOs such as WCS will provide technical support through the duration of the project as necessary and act as the honest broker

	during the negotiation of the contracts.
Research Institutes/Universities	Relevant regional research institutes such as CENAREST, IRET and ENEF will contribute to project during scientific surveys and educational activities as necessary.
Other	
UNDP-Gabon/GEF	The roles and responsibilities of UNDP-Gabon will include: Ensuring professional and timely implementation of the activities and delivery of the reports and other outputs identified in the project document; Coordination and supervision of the activities; Contracting of and contract administration for qualified project team members; Establishing an effective networking between project stakeholders, specialized international organizations and the donor community.

Figure 3: Summary of Potential PES mechanisms for the hydrological services in the Mbé Watershed

Department of Environment – Regulator and governance structure		
	Potential Buyers	
Potential Sellers	SEEG/Other consumers in Libreville	Govt. of Gabon (Energy Ministry)
Forest companies	Self-organized private deals	Public payment schemes to private owners
Mining companies	Self-organized private deals	Public payment schemes to private owners
Local Populations	Self-organized private deals	Public payment schemes to private owners
National Park Managers(ANPN)	Contract between the service provider and private owner.	Contract between the service providers to public administration.

BASELINE ANALYSIS

89. The baseline situation for the Mbé Watershed is one which is made up of several different management units including the Mbé sector of Monts de Cristal National park, 4 logging concessions, 2 mining concessions and 10 villages (c.1000 inhabitants). There is currently no management plan for the Park and the ANPN do not have a permanent presence at their base. The park manager is based in Kango, the provincial capital, and only makes occasional visits to the park. There are no settlements in the park but illegal gold miners and hunters operate with its boundaries. There are only 2 park rangers, no vehicle and a very limited operating budget for law enforcement activities. The Mbé sector of the National Park is

therefore little more than a “paper park” lacking the technical and financial resources to undertake real management, and in which illegal extraction of natural resources typically occurs with impunity

90. Outside of the National Park commercial logging is the dominant feature of the watershed. Of the 4 logging concessions in the watershed (BSG, TLP, Honest Timber and Greenedge) only BSG (a Malaysian company) and Honest Timber (a Chinese company) are active. The 2001 Forest Code introduced the principle of sustainable forest management but progress with developing management plans has been slow because of lack of clear rules for management plans, absence of a coherent forest zoning and lack of enforcement will and capacity, which have resulted in a situation where non respect of national laws and regulations is a more lucrative alternative than compliance. Under the new Forest Code the management plans that logging companies are required to elaborate must address the question of wildlife management in the concessions. However technical capacities in this field are lacking and enforcement capacities are weak, resulting in widespread uncontrolled commercial bushmeat hunting in concessions. The network of logging roads, penetrating deep into relatively undisturbed forest blocks, enables hunters to exploit areas rich in wildlife and transport the bushmeat rapidly to the urban markets. None of the companies in the watershed have a management plan or inventory and none are certified. By changing their practices, logging companies could reduce their impact on forest and on the environmental services. However, there is little or no law enforcement to control their activities and existence of the law alone is not enough to encourage them to do so.

91. The situation is similar when it comes to the mining sector. Two mining companies, Lonmin and CICMHG have permits in the watershed and these also extend into the National Park. The mining code required companies to carry out an impact assessment (environmental and social) but in practice few companies do this. Lonmin is an English company, is the 3rd largest producer of platinum, and has a research permit in the watershed. However, for now it has suspended operations and is attempting to sell its permit. Lonmin had an environmental policy and took precautions to reduce its environmental impact, e.g roads were planned and built based on recommendations given by IRET, they employed full-time ecoguards and planned to fly in their equipment by helicopter to avoid damage during prospecting in the National Park. The new buyer of the permit may not be so environmentally responsible. CICMHG, a Chinese company, has a prospecting authorization (a step before the research permit) for iron which lasts for 2 years. The Ministry of Mines has no record of any environmental impact study and they lack the capacity to control and keep track of activities carried out in the concessions. As with forestry companies, the lack of law enforcement of the Mining code means there is little incentive for the mining companies to change their behaviors.

92. No system currently exists for rational land-use planning that reconciles various land uses with nationally and globally important protection of environmental services. Logging, mining, hunting, and agricultural interests are left to respond to market forces in their particular areas. The role of the national park, local communities, and logging and mining concession-holders in providing ecosystem services (such as electricity production and water provision for the utilities and the residents of Libreville) is not being recognized and rewarded.

93. Gabon currently receives significant support from external partners for biodiversity conservation. This is partly linked to Gabon’s commitment to create 13 national parks (the CBFIP initiative was launched at the same time), but also reflects the long term effort made by some NGOs and funding agencies (notably WWF, WCS, EC) to promote biodiversity conservation in Gabon. However, conservation efforts continue to be in a piece-meal fashion, based on short term project cycles which hamper the development of a long term vision and sustainable financing for conservation in Gabon.

94. Since Gabon has such a low human population density in rural areas, these threats, while serious (because of the commercial nature of the exploitation), have not yet pushed natural resource

impoverishment to the point of “no return” as has occurred in many forested areas in West Africa. Gabon is therefore in the unusual position of being able to act before it is too late. However, as pressure on the natural resources increases and environmental protection remains largely funded by short term interventions from external donors there is a high risk that this situation could change.

95. Therefore overall the baseline scenario would likely result in:
- Continued lack of awareness of the value of environmental services
 - Continued short term interventions in the Monts de Cristal National Park
 - Little engagement of the private sector in natural resource management
 - Continued difficulty in changing management practices of logging and mining companies in the watershed.
 - Increasing pressure on the natural resources in the watershed, through hunting, agriculture, logging and mining.

PART II: Strategy

PROJECT RATIONALE AND POLICY CONFORMITY

Fit with the GEF Focal Area Strategy and Strategic Programme

96. The proposed project is fully consistent with both the GEF’s mandate and the new Biodiversity Framework Strategy for GEF-4. By creating a mechanism for watershed users to contribute to watershed protection, the project will address Strategic Program 1 (“Sustainable Financing of Protected Area Systems at the National Level”) of Strategic Objective 1 (To Catalyze Sustainability of Protected Area Systems”) and Strategic Program 5 (“Fostering Markets for Biodiversity Goods and Services”) of Strategic Objective 2 (“Mainstreaming Biodiversity in Production Landscapes/Seascapes and Sectors”). The project will also indirectly contribute to both the sustainability of terrestrial protected area networks (BD SP3), and the species communities which they protect, as well as to mainstreaming biodiversity in large landscapes (BD SP4) by strengthening policy and regulatory frameworks. The project will directly contribute to the GEF mandate to generate global environmental benefits, and with the shared objective with the CBD to enhance forest-based economic and social benefits as well.

97. This PES project is also relevant to the Climate Change and Land Degradation focal areas, as well as the Sustainable Forest Management (SFM) program.

98. Moreover, this project is part of an umbrella Program, the **GEF Strategic Program for Sustainable Forest Management in the Congo Basin (CBSP)**, covering the six countries of the Basin (Cameroon, Congo, DRC, Central African Republic, Equatorial Guinea and Gabon) aimed at reversing the current rate of deforestation and degradation of ecosystems, maintaining ecosystem functioning and conserving ecosystem values such as the biodiversity and carbon-based capital of the Congo Basin. The overall Program will be supported by the GEF for more than \$40 million and comprise 5 regional projects and 8 national projects, to be executed in collaboration with UNDP, UNEP, WB and FAO.

99. The proposed project fits into the CBSP’s following components:

- Component 1 “Maintaining ecosystem functioning, values and carbon-based capital”, as it will provide new tools for national governments, industry, communities and NGOs to better protect large conservation landscapes, their constituent species and the multiple goods and services that they provide, and

- Component 2 “Strengthening the policy, regulatory, institutional and sustainable financing framework for sustainable ecosystem management”, as it will help contributing to building a long-term innovative finance architecture for sustainable forest management in Gabon, including operationalization of the PES scheme(s) particularly in the Mbé watershed.

100. The proposed project also takes into account the recommendations made in the guidance document of the GEF Scientific and Technical Advisory Panel (STAP) guidance document on Payments for Environmental Services. As such the proposed project requests funds to overcome the high start up costs that have been identified as a constraint to project implementation. These start up costs include building a constituency of support for the project, carrying out an ecosystem service appraisal, contract design and negotiation, and development of a monitoring and evaluation system among other costs. The proposed project intends to use PES as a financing tool to generate additional funds for conservation of the Monts Cristal National Park and also as a mainstreaming tool to create to create incentives for the private sector and local communities to engage in improved ecosystem management.

Rationale and summary of GEF Alternative

101. The GEF alternative will allow Gabon to undertake a program that would generate global, regional and national benefits. Gabon’s unique combination of exceptionally abundant and diverse natural resources with a low population density presents a favorable context for implementing a sustainable development strategy which will avoid large-scale environmental damage and which will also benefit the global community. In the above sections, barriers to the implementation of the proposed project were identified. Support to removing the above barriers constitutes the essential rationale for the present project and forms the basis for its three outcomes.

102. GEF funding will therefore result in:

- Increased awareness and understanding of the value of environmental services and the concept of PES
- Increased engagement of the private sector in natural resource management
- A strengthened policy and legal and institutional framework in Gabon which will be applicable to all PES mechanisms
- A pilot site set up in the Mbé watershed to demonstrate how a PES can provide a sustainable source of funding for a natural park and provides incentives for better management outside natural parks.
- An increase in the empirical evidence base, as a result of component 3 which will monitor and evaluate the effectiveness of the Mbé pilot scheme to deliver its objectives.
- The increased conservation of threatened biodiversity of global importance including great apes and elephants.

PROJECT GOAL, OBJECTIVE, OUTCOMES AND OUTPUTS/ACTIVITIES

103. **The project’s goal is that** Biodiversity and environmental services of Mbé watershed protected and livelihood of dependent communities improved through an increased awareness and valorisation of the environmental services provided by the watershed.

104. **The project objective is to** design a sustainable financing mechanism for long-term protection of the Mbé River forested watershed, while strengthening the legal, policy and institutional framework necessary to ensure its adoption and successful implementation

105. In order to achieve the above objective, and based on a barrier analysis (see Section I, Part D), which identified: (i) the problem being addressed by the project; (ii) its root causes; and (iii) the barriers that need to overcome to actually address the problem and its root causes, the project’s intervention has been organised in two outcomes:

Outcome 1: Legal, policy and institutional framework provide enabling support for—and key institutions have improved capacity to design, manage, implement, monitor and learn lessons from—a PES scheme for the Mbé watershed

Outcome 2: A pilot PES scheme that rewards the maintenance, improvement or adoption of conservation-friendly land uses, together with an associated monitoring plan, are designed

Outcome 1: Legal, policy and institutional framework provide enabling support for—and key institutions have improved capacity to design, manage, implement, monitor and learn lessons from—a PES scheme for the Mbé watershed

106. Outcome 1 will deal with the legal, policy and institutional framework in Gabon. As outlined in Part 1 section 1, the framework exists for biodiversity and environmental protection. Although environmental services are mentioned in some strategy documents, the legal and institutional framework required for an effective PES scheme to be piloted is missing. The proposed project will work to strengthening the ability of existing institutions to design and implement PES schemes and work towards developing supportive legal framework. Outcome 1 will include activities based around 3 major aspects; legal aspects, institutional aspects and capacity building and lesson learning:

107. The timing of the proposed project is particularly opportune given that Gabon is currently working on a new environment and water code. Whilst, the focus of the proposed project is on the Mbé watershed, the capacity building and lesson learning aspects of this outcome will have wider application for other PES schemes in Gabon that may develop. Key results from the capacity building include (a) key institutions with capacity to collect, monitor and analyze data on the causal links between land use change and environmental services produced, (b) functional capacity of the (PES institution) to assess buyers needs, community and private sector’s acceptance of PES program, and assessment of sustainability of PES market mechanisms, (c) creating awareness among project stakeholders of the importance of environmental services, how they benefit from them, and how they can participate in the PES program.

108. The outputs necessary to achieve this outcome are described below.

Output 1.1 Proposal for harmonization of national sectoral policies and legislation developed to support the implementation of PES scheme

109. In order to achieve this output it will be necessary to consult with government agencies across sectors to discuss ways of harmonising the various policies and laws. This will allow potential constraints and strengths of existing policies to be identified and recommendations on how to address inadequacies to be made. For example, the project will work towards getting recognition of ecosystem services in the various laws governing land use. It may also be necessary to create legal obligations for water users to contribute to watershed management, ensure that payments and compensations are possible, and define who has the right to buy and sell ecosystem services. In addition the potential for establishing the legal basis for watershed protection and a PES schemes will be explored.

110. Decree n° 744/PR/MMEPRH was “unearthed” during the legal review carried out in the PPG. This decree is interesting in the sense that it makes provision for the creation of a protection zone for water resources for human consumption or for hydroelectricity. In order for this to happen, the zone must first

be declared a zone of public interest which allows the restriction of certain activities in exchange for compensation. This decree is currently not being implemented and not widely recognized. The project will work with the relevant government ministries to inform people of this law. The project will also be crucial in convincing those same government departments of the importance of this watershed as a zone of public interest and getting the zone classified as such.

Output 1.2 Proposal for land use rights are developed to form a sound basis for designing a PES scheme.

111. In order to provide a stable and secure legal framework for the various forest management stakeholders (concession holders, communities involved in community forestry, etc.), Gabon is initiating a process of participative zoning and constitution of the Rural Forestry Domain (DFR) through legal procedures (classification and registration). This will be important to ensure clear community involvement in managing forest resources.

112. The forests in the rural forest domain are very sensitive to deforestation (absence of community property, lack of support for sustainable management etc.) and to illegal industrial logging. Empowerment of local communities will provide better security. Therefore, in addition to reinforcing land tenure regulations, this process will require significant efforts to define the DFR and to strengthen the organization of the civil society (community association etc.).

113. This project will work with existing initiatives to clarify land use rights and develop land use zoning plans for the Rural Forest Domain and will propose guidelines for land use rights that would be supportive for PES development. The project will support local communities in the areas on the periphery of the park to negotiate land management contracts with ANPN and supporting the creation of community forests in the rural forest domain. The project will also explore the implementation of both types of contracts as a way of involving local communities in the management activities on the periphery of the park as part of the pilot PES scheme.

Output 1.3. Effective coordination and information exchange structures developed that promote cross-sectoral information sharing and synergies among government agencies and key stakeholders with the ultimate view to establishing a PES institution/governance

114. The project will work towards the development of an institutional framework that will be able to provide effective support services to PES deals. More specifically this will involve working with the existing institutions in place such as the CNDD (Conseil National de Développement Durable) and the National Designated Authority which offer an inter-sectoral platform to address issues. An inter-sectoral platform will be essential when it comes to developing a PES scheme for the Mbé. There are many government departments involved, who have overlapping jurisdictions, and effective coordination and information exchange structures to promote information sharing and synergies among government agencies and key stakeholders will be important.

115. One of the first activities to be undertaken will be to establish a project management technical unit (Technical Cell) to follow the development of the proposed project closely. This technical cell will be made up of representatives of a few key ministries, notably Environment, Planning and Finance. This approach has already been used for Gabon's work on Climate Change and it has proven successful in facilitating cross-sectoral coordination. It will also be important in the evaluation of synergies between this proposed project, focussing on watershed services, with the work being carried out by other initiatives focussing on carbon and climate change.

116. Building on previous experiences with CDM and REDD projects and through initial stakeholder meetings, it is envisaged that a PES institution will be created, which will be a government institution

housed under the Ministry of Environment (perhaps via CNDD) and financed by revenue from PES deals or other environmental taxes. Although the CNDD exists, it is not yet operational. It is hoped that it (or a similar institution) will be developed so that it has the ability to identify and set up future PES schemes, have the technical capacity to design and facilitate contract negotiations, and be capable of monitoring and evaluating the schemes. Representatives of each of the key ministries identified during the stakeholder analysis will be present on the board of directors, as will local authorities, research institutions and local and international NGOs. Ultimately, the project “Technical Cell” described above will be dissolved within the PES institution.

117. The proposed project will work towards the formalization of the institution and will evaluate the institutional potential for this PES institution to manage all ecosystem service projects (such as future REDD projects). However, a full feasibility analysis will be carried out under this output and include an analysis of the potential institutional synergies for bundling services and a plan for how it will be financed.

Output 1.4 Staff of government agencies and other partner / support agencies trained in key aspects of PES including design, - implementation and monitoring

118. In order to overcome the high human and institutional capacities barriers described in the previous Section, the development of the legal and institutional frameworks will be accompanied by a capacity building component which will work with the key government departments and other stakeholders who will be involved in the scheme to build technical capacity in PES. These will include the Ministry of Environment, Ministry of Finance, Ministry of Energy, SEEG and local NGOs working at the site level. Firstly, a capacity needs assessment will be carried out to assess/identify critical gaps and needs in providing support services to PES schemes, as well as the capacity to design, implement and monitor PES. Short courses and training workshops in spatial analysis (Land Use Land Cover Analysis) will be carried to improve the capacity nationals to assess and predict the effects of land uses on environmental services provision (water) and its impacts on local livelihoods and national economy.

119. In terms of managing the payments, it is envisaged that a separate “PES fund” will need to be created and managed (by the CNDD). Provisions are made for in the National Parks Law which allows for the creation of such funds, but there has been little use of them in Gabon thus far. At a local level the proposed project will also work with village associations to ensure they have the capacity to manage their portions of the revenue.

120. In addition, a study tour for government officials will be organised to learn from other experiences in the area of natural resources management and how PES has been successful at generating necessary revenue for natural resource protection. The tour will also allow participants to learn how different institutions collaborate in PES projects, looking at the institutional arrangements, legislation, policies and strategies and to learn how policies and strategies are implemented.

Output 1.5. Lessons learned/gained from the design process are disseminated and transferred to other watersheds in the country and Congo Basin

121. A key element of this component is also focused on establishing the mechanisms and learning process for generating and analyzing site specific land use change and environmental services which can provide the knowledge base to replicated the PES scheme to other areas in the country. Given that this PWS scheme will be the first such scheme in central Africa, it will be important to learn lessons and disseminate this information throughout the region. This will be done through the publication of results in journals and also through the production and publication of manuals on “how to” and “best practices”.

Outcome 2: A pilot PES scheme that rewards the maintenance, improvement or adoption of conservation-friendly land uses, together with an associated monitoring plan, are designed

122. The main objective of this component is to design an environmental services payment scheme in a portion of the Mbe watershed, and to develop procedures to replicate the approach more widely in the watershed and in the country. Effective implementation of the PES scheme is expected following the completion of the project. Payments will be provided for land use activities that generate valuable local, national, and global environmental benefits such as improving water quality, regulating groundwater and surface flows, and maintaining or enhancing biodiversity and carbon sequestration. The initial pilot area was selected based on having both significant water benefits and significant biodiversity conservation benefits. A clear set of criteria will be developed to define eligible activities, expected benefits, and level of payments. Key results from this component include (a) establishing a baseline for the monitoring of selected environmental services; (b) designing a program of payments for environmental services; (c) signing contracts between (PES institution) and the buyers and sellers of environmental services.

123. The activities will deepen the work carried out during the PPG to provide detailed information in order to design a PES scheme that is adapted to the socio-economic context of Gabon. As identified during the PPG, there is a paucity of existing data in Gabon and the proposed project therefore will develop and put in place the ecological studies necessary to design a robust scheme. This outcome will also support a more in depth stakeholder analysis and identification of buyers and sellers structuring of PES agreements and their implementation and the development of a business plan. The business plan will be crucial for assessing the financial sustainability of the scheme and engaging SEEG. In order to put in place such a pilot scheme, three major aspects need to be undertaken: building a constituency for PES in the Mbé, carrying out technical studies, designing and negotiating contracts and setting a monitoring and evaluation framework for the scheme. Outputs 2.1 will work towards building the constituency for PES in the Mbé outputs 2.2-2.4 will allow the necessary technical studies to be carried out, outputs 2.5 and 2.5 focus on designing and negotiating contracts and outputs 2.7 and 2.8 deal with developing the monitoring and evaluation plan for the scheme.

124. The outputs necessary to achieve this outcome are described below.

Output 2.1 An education and persuasion process put in place to gain the support of important stakeholders, e.g. governments, private business and land owners

125. Under this output a strategy for stakeholder communication and engagement will be developed and implemented via stakeholder meetings and workshop and through the development of educational and promotional material. The awareness campaign will be oriented to gain support from the general population, from the public and private sector especially the electricity utilities, and other private and public sector agencies that benefit from environmental services. These workshops will aim at highlighting opportunities for businesses to improve their bottom line by investing in the restoration and maintenance of ecosystems for reliable and flows of ecosystem services.

126. A forum of private businesses (utility, hydropower, beverage and mining) will also be set up to discuss approaches to PES that bring on board the marketing and financial expertise of the private sector. Corporate Ecosystem Services Review framework developed by World Resources Institute will be used to help major stakeholders to proactively develop strategies to manage business risks and opportunities arising from their company's dependence and impact on Mbé ecosystem services. The incremental resources from GEF will be used to design the campaign, prepare printing and audiovisual material, and to implement the campaign.

Output 2.2 Ecosystem services in the Mbé watershed are defined, measured and assessed, including an assessment of the impacts of different land uses.

127. A watershed assessment will be carried out to identify and measure the ecosystem services of the Mbé watershed (carbon sequestration, watershed services and biodiversity) in detail. The proposed project will also support an economic valuation and more importantly a financial feasibility analysis to determine whether the services can be marketed and create revenue.

128. Targeted technical studies will be carried out to (i) clearly identify the specific upstream land use changes that need to be promoted or discouraged and the critical areas in the watershed in which to do so, such as erosive areas if sedimentation is the problem; (ii) estimate the size of the area that needs to be conserved, and the cost of that conservation; (iii) estimate the likely impact of conservation in terms of additional services or averted loss of services; (iv) estimate the value of this impact to water users (for example, costs avoided).

Output 2.3: Production with participation of all major stakeholders, of detailed PES schemes proposals tailored to the Gabon socioeconomic context

129. The proposed project will support the development of detailed PES options for the watershed, including an evaluation of the potential feasibility to bundle the watershed services with others services such as biodiversity and carbon storage. These options will be presented to stakeholders and discussed in detail in order that the adopted scheme is accepted by all stakeholders and adapted to the local context. For the specific scheme adopted further assessments of motivations and key barriers to private sector and landowner engagement in PES will be required as will an assessment of the “willingness to pay” of beneficiaries and the “willingness of sellers” to accept for the proposed scheme.

130. However, initial discussions with SEEG and Veolia have been positive and their engagement in such a scheme is inline with their company strategy. During the PPG, an assessment was made as to the sources of these payments. The funds could come from SEEG profits, a reallocation of maintenance budgets or an increase in taxes paid to the government. Ultimately SEEG could pass on these costs to the consumer through a renegotiation of its contract with the government and increasing electricity tariffs. A complete business plan will be developed with SEEG as part of this component to assess the financial feasibility of such a scheme and the willingness to pay of all stakeholders affected. It is also envisaged working to identify buyers of other services during the project life cycle.

Output 2.4 A business plan developed to improve financial security and options for MBÉ watershed

131. Under output 2.4, there will be a detailed analysis of the current budgets, financial mechanisms and income sources for the Mbé watershed. There will then be an economic evaluation of the ecosystem services and a financial feasibility analysis which will allow an assessment of whether sufficient revenue will be generated to offset the opportunity costs of other land uses in the watershed. The business plan will identify new sources of income out include resources, investments, marketing, detailed budgets, and projections of costs and income and likely sources of finance for Mbé watershed.

Output 2.5. Guidelines and criteria for contracts between buyers and sellers developed and contracts negotiated and drafted.

132. Guidelines and criteria will be important to insure that contracts are designed in such a way as to lead to changes in behavior and protection of the ecosystem services. Having guidelines and criteria that

have been discussed with all potential buyers and sellers will also lead to greater transparency and serve to facilitate the negotiation. Contracts will be developed through a process of negotiation between the buyers and sellers, facilitated by other stakeholders such as WCS and the Ministry of Environment.

Output 2.6. A proposal of a system for distribution of benefits designed and proposed to key stakeholders

133. There are currently no operational examples of benefit sharing in Gabon (such as revenue from tourism projects). As such it will be important to develop a system of the distribution of benefits which is transparent and accepted by all parties. For example, there may be individual payments, along with some kind of social payments that might be more community-based (for schools, public needs, etc.). A variety of different options will be explored and evaluated.

Output 2.7 Monitoring systems for biodiversity, water quality using biological indicators established

134. Monitoring systems will be developed and implemented. A key challenge in designing and implementing a PES scheme is to ensure the transaction costs are minimized within the constraints of ensuring that the intervention is effective. There is therefore a need to establish an appropriate balance between effective monitoring of ecosystem services given uncertainty under environmental change, and controlling transaction costs. Careful consideration of these issues will be given in the design of the monitoring systems that are developed for this scheme. There are currently no baselines and these will therefore be established both within the watershed and at control sites.

Output 2.8 Methodologies for monitoring and evaluation of the effectiveness of PES in Mbé developed

135. A monitoring and evaluation plan for PES effectiveness will be developed to allow for lesson learning and adaptive management.

PROJECT INDICATORS

136. The project indicators contained in Section II / Part II (Strategic Results Framework) include only impact (or ‘objective’) indicators and outcome (or ‘performance’) indicators. They are all ‘SMART’²².

137. The project may however need to develop a certain number of process-oriented indicators to compose the ‘M&E framework’ at the site level. For this reason, outcome 3 foresees exactly the establishment of a ‘site-level M&E framework’. These indicators are also expected to feed into the project’s overall M&E framework. It is envisaged that the project’s overall M&E framework will build on UNDP’s existing M&E Framework for adaptation programming.

138. The organisation of the logframe is based on the general assumption that: (1) Baseline conditions in the selected areas can be extrapolated with high confidence level to other forested watershed areas.; (2) Increased awareness and capacity, along with a functioning payment system will lead to a change in behaviour with respect to watershed protection and land use planning decisions; and (3) PES will gradually become a national priority for Gabon as knowledge and information is made available; then a sustainable financing mechanism to ensure long term protection of the forested watershed that has a high conservation value will be achieved. This logic is based on the barrier and root-cause analysis carried out

²² Specific, Measurable, Achievable, Relevant and Time-bound.

during the PPG phase (refer to Section I, Part I, chapter ‘Long-term solution and barriers to achieving the solution’).

139. In turn, the choice of indicators was based on two key criteria: (i) their pertinence to the above assumption; and (ii) the feasibility of obtaining / producing and updating the data necessary to monitor and evaluate the project through those indicators. The following are therefore the project’s key indicators:

Table 4. Elaboration on Project Indicators

INDICATOR	TARGET
At objective level to develop a sustainable pilot PES mechanism to secure the long-term protection of a high conservation value forested river basin	
A collaborative framework established and functional	Collaborative framework on PES between key institutions operational by the end of the project.
Establish a baseline for populations of selected biodiversity indicators and conservation target species in the watershed and control areas	Baseline exists for watershed and control site at end of project
% of watershed with management plan taking into account watershed protection	Target of 30% by the end of the project
Revenue distribution (sharing) mechanism established with guidelines to orient funds to watershed protection	Mechanism and guidelines exist
At outcome 1 level – Strengthening the enabling environment for PES Legal, policy and institutional framework support PES scheme for the Mbé watershed and key institutions have capacity and resources to design, manage/implement and monitor PES scheme, be able to learn lessons from the pilot scheme and replicate to other sites in Gabon.	
Inter-ministerial coordination in established collaborative framework, biannual meetings	2 inter-ministerial meetings per year beginning PY2
At the end of project (EOP), a national policy is drafted	Proposal for harmonizing sectoral policies agreed by EOP
Central government training needs assessed and implemented	Training needs assessment completed by end of PY1
Number of staff of key agencies trained in PES best practices	60-100% of relevant central government staff have received training necessary to design, manage and monitor PES scheme by EOP (short courses, study tours, fieldwork etc.)
Number of people who know about PES as a means of watershed protection for the Congo basin expanded	At least 3 articles reporting on the design of PES scheme
At outcome 2 level – Designing PES scheme(s) for the Mbé forest A pilot PES scheme that reward the maintenance, improvement or adoption of conservation-friendly land uses is designed and a monitoring plan to evaluate its success established	
PES mechanisms designed and contract developed between buyers and sellers;	Detailed proposal for PES scheme is drafted by year 2

INDICATOR	TARGET
Major stakeholders identified and engaged by the end of Year	Contract for PES between SEEG and Government signed by EOP
Management plans of land units include provisions for watershed protection and biodiversity conservation	At the end of project, management plans exist for 100% of the target area
Mechanisms for law enforcement in place	Law enforcement operational in key hotspots
Reported bush meat or frequency of bush meat sale through the Mbé	At EOP hunting for bush meat has decreased by 30%
Monitoring and evaluation plan for PES in the Mbé watershed developed	Monitoring and evaluation plan developed by Y-3 with methodologies peer reviewed and baselines established

RISKS AND ASSUMPTIONS

140. The project strategy, described in detail within this project document, makes the following key assumptions in proposing the GEF intervention:

- Baseline conditions in the selected areas can be extrapolated with high confidence level to other forested watershed areas and lessons learnt can be successfully disseminated.
- Increased awareness and capacity, along with a functioning payment system will lead to a change in behaviour with respect to watershed protection and land use planning decisions. .
- PES will gradually become a national priority for Gabon as knowledge and information is made available.

141. During the PPG phase, projects risks were updated from what has been presented at the PIF stage.

Table 5. Project Risks Assessment and Mitigation Measures

IDENTIFIED RISKS	RISK ASSESSMENT	MITIGATION MEASURES
There may be political pressure to shape the PES system to achieve non environmental goals, such as assisting politically-favored groups irrespective of likely environmental impact.	S	Payments under any individual PES mechanism will only be made for land uses that are expected to generate the environmental services that the service users at that site desire. Collaborative framework established will monitor the effectiveness of these land uses in generating the desired services and report to service users.
Lack of political will or economic/ financial incentives on the part of key stakeholders to help develop and participate in efforts to replicate and/or scale up the project's piloted PES markets to a national level.	M	The project takes an incremental approach to developing a PES system by focusing on the building blocks of an institutional framework. A dialogue with key stakeholders has already begun.
Lack of capacity of national institutions, NGOs, and academic institutions to support long-term development of environmental service markets in Gabon.	M	The project aims to build the necessary institutional capacity of key actors in environmental services market. Outcomes 1, 2 and 3 are designed to provide the necessary support and capacity building activities to each institutional actor to prepare them to assume a proactive and productive role in establishing and maintaining the PES system.
Low participation rate of land users - ES providers are reluctant to bear the opportunity costs of mitigating current destructive activities such as forest destruction and bush meat trade.	S	By putting in place PES, stepping up surveillance and law enforcement efforts through a complementary program of planning and law-enforcement to be implemented by government authorities, and addressing technical barriers that land users face in altering current land use patterns, the project will influence the cost-benefit calculus in favor of environmentally friendly land uses. Payments offered will need to be sufficient to compensate land users for their opportunity costs.

IDENTIFIED RISKS	RISK ASSESSMENT	MITIGATION MEASURES
Difficulty in identifying changes in land use that would have the desired effect, particularly with regard to hydrological regulation.	M	Project design is based on the most recent studies of the linkages between land use and hydrology. During implementation the project's effects will be closely monitored and adjustments made for eligible activities and targeted areas. A strong monitoring component will increase knowledge on land use and hydrology relationships.
Unwillingness of service buyers to participate due to free rider behavior	S	Key beneficiaries such as SEEG are unaware of the value of the services and the degree to which their service delivery could be jeopardized by forest destruction. This risk will be mitigated by objectively evaluating and communicating value and threat. Information generated under Component 1 will provide the basis for negotiating deals among stakeholders. Implementation of site-specific mechanisms will require an agreement among local service users on how to share the financing burden among themselves, thus giving leverage against free-riding
Climate change is threatening the sustainability of the established PES scheme.	N	Actions taken by service providers are aimed at mitigating these risks (i.e. protection of dams, reforestation, siltation control etc) by building the resilience of the Mbé watershed to climate change.
Reduced level and diversity of co-financing	S	While the reduced level of co-financing (as compared with the PIF) has largely been accounted for by changes in project design (namely the elimination of Outcome 3), a reduced diversity of donor support remains a concern. One way in which this risk will be mitigated is through continued outreach to the donor community, which will take place in co-operation with the UNDP-GEF regional project for Sustainable PA Financing in the Congo Basin. This project is providing the broader umbrella for UNDP-GEF work throughout the sub-region on PA financing, including PES and other revenue generating and disbursement mechanisms. As such, it will be useful in raising the profile of these issues and in building broad-based national and donor support for meeting the project's objective and for subsequent implementation.
Incomplete engagement on the part of the private sector	M	It has become clear during the course of the PPG that the main private sector operator, SEEG, would not be willing to commit in advance to support for a PES scheme, given that a number of questions related to the scheme were, by definition, unresolved (thereby creating the need for the GEF intervention). The risk created by moving forward

IDENTIFIED RISKS	RISK ASSESSMENT	MITIGATION MEASURES
		with a more general indication of ‘support’ from SEEG will be mitigated through careful efforts to engage the company during the full project and to encourage their understanding that the scheme will be both in their best interest and in the best interests of Gabon. Similar efforts to engage a broader range of national-level stakeholders are expected to result in a groundswell of support for the scheme, which will be further encourage SEEG’s ongoing co-operation and agreement.
Overall Risk Rating	M	

Risk rating: H (High Risk), S (Substantial Risk), M (Modest Risk), N (Negligible or Low Risk)

Risks refer to the possibility that assumptions defined in the logical framework may not hold.

INCREMENTAL REASONING AND EXPECTED GLOBAL, NATIONAL AND LOCAL BENEFITS

142. Without GEF support, conservation of Gabon’s forestry estate and protection and management of the nation’s new protected area network will continue to depend on short-term and precarious donor funding. This proposal would pioneer equitable and sustainable distribution of the costs and benefits of forest conservation in Central Africa, with a potential impact extending long past the end of the funding period.

143. The development of such an innovative project, with GEF support, will widen the opportunities for environment finance in Gabon and other developing countries presenting a real potential for a market for ecosystem services. The randomized experimental approach in Component 3 is an approach that countries do not normally do in their routine operations except in academia. Globally there has not been much work done in randomized designs for PES work, and so this project will be among the first. It is therefore expected that there would be considerable international interest in the results of this initiative and that the program could serve as a model case study for other countries, and as a possible model for PES for carbon, which Gabon is also interested in accessing.

144. Ongoing initiatives to support PA management in Gabon include;

- i. The regional “Sustainable Financing of Protected Area Systems in the Congo Basin” project which is part of the GEF Strategic Program for Sustainable Forest Management in the Congo Basin (CBSP) includes Gabon.
- ii. The CARPE program aims to improve natural resource management and governance in 12 landscapes across the Congo Basin. The Mbé Watershed is part of the Monte Alen-Monts de Cristal Landscape
- iii. Component 1 of the GEF PARC “Strengthening capacity for managing national parks and biodiversity” project aims to support and build capacity within the ANPN
- iv. The EU ECOFAC program also has a component “Strengthening Institutional Capacity” for ANPN.

145. Global Level Benefits: The proposed project will develop an effective means to protect one of Africa’s most botanically biodiverse and climatically stable forests that in the past have provided refugia for many regional species, including commercially important timber species. The target area is also home to endangered mammal species such as chimpanzees, gorillas and forest elephants. In addition to assuring the long-term maintenance of biological diversity, the proposed project will also work to assure to ecosystem functions, environmental services, and economic benefits of forest resources.

146. National Level Benefits: The proposed project will develop effective protection for forest resources that provide essential environmental services to Gabon's economy. In addition, the capacity building aspects of the project design will increase Gabon's technical capacity for forest protects and to develop further PES type projects.

147. Local Level Benefits: The proposed project will work towards land tenure clarification of the rural forest domain which will enable local communities to be more involved in natural resource management and to benefit from revenue generating activities such as PES schemes.

COST-EFFECTIVENESS

148. Alternatives to setting up a PES scheme for the Mbe, would be to establish a trust fund, continuing with classic conservation finance and grants from donors, classic park management with tourism financing and integrated conservation and development projects (ICDPs).

149. Establishing a trust fund offers alternative to establishing a system of regular payments, but would require a larger investment and result in higher opportunity costs, given that a larger sum of money would have to be invested up front to create the capital needed to generate the resources to service the contracts. The sum needed to ensure adequate annual payments would need to be large, taking into account that likely annual returns would be in the range of 3 to 4% on conservative investments.

150. Continuing with a grants for donors is not a long term solution and the short term funding which long-term needs unaddressed when the projects end. In addition, different funders have different goals and objectives and reconciling these differences could lead to a lack of coherent strategy for the watershed protection. This is particularly true given the multitude of actors in the area and the strategy. These strategies are often "command and control" to achieve conservation and are less cost efficient.

151. A final alternative would be park management with support through tourism financing. In Gabon, sustainable financing of park management through tourism revenues is currently not feasible. There is no tourism infrastructure or legal basis for creating tourism concessions or revenue sharing with local communities and as such tourism revenue in Gabon, a part from one or two sites is very low. If tourism develops in Gabon, as is planned by the Government of Gabon, the PES mechanisms and institutional capacity developed during this proposed project will also be crucial for managing tourism revenues (tourism is PES in that it is a payment for biodiversity and landscape beauty).

152. ICDPs have been carried out previously in Gabon, but it has been hard to show the links between development projects working to increase people's livelihoods and a change in behaviour. For example economic alternatives such as chicken farms have been developed in Gabon as a way of protecting national parks from the threat of illegal hunting. However, similar projects have largely been unsuccessful at demonstrating a reduction in hunting and when the donor project ends, there have been very few examples of the development projects continuing.

153. As described in the introduction PES schemes are considered a more direct approach to conservation and advocates suggest that it has the potential to overcome the failings of other conservation paradigms as it is more cost-efficient. Direct payments made to achieve desired outcomes are more efficient and are more likely to achieve results than indirect payments that attempt to induce behavior change. Transaction costs are central to the cost-efficiency of PES schemes and include consultations with providers and beneficiaries, contract design and negotiations, monitoring service delivery and managing payments. Monitoring, in particular, is both potentially highly costly and essential to prove to beneficiaries that their investments are delivering the promised services. Considerations of cost-efficiency will therefore be considered carefully in the design of the scheme.

154. Cost-effectiveness will be also enhanced by existing site-based capacity provided by WCS and by the engagement of private sector and civil society partners in implementing the PES scheme. The project

will multiply its impact through its status as the first pilot of its kind in Central Africa and through the randomized trial design that facilitates replication.

155. Cost effectiveness is enhanced by creating a link between a revenue generating utility and individual providing ecosystem benefits. The project will create a price for services and contract system that lead to long-term payments. The costs of servicing these contracts will be internalized by the company and lead to sustainability.

PROJECT CONSISTENCY WITH NATIONAL PRIORITIES/PLANS:

Starting with the adoption by the Government, in 1993, of the Environmental Code, the Republic of Gabon has strengthened its natural resources management policy framework. The Forest Code, adopted in 2001, clarified the legal status of protected areas and introduced the concept of national parks, the highest level of biological protection recognized worldwide. A Letter of Sector Policy was developed in 2004, calling, among other things, for the adoption of a new legislation on national parks, and the establishment of an adequate institutional capacity to manage national parks. The 2007 National Parks Law created the National Park Agency (ANPN) in charge of managing the parks. The present project is consistent with the Forest, Fisheries and Environment Program (PFPE), especially with its Component 4 (Valorization of other environmental goods and services). The long term objective of this Program, which results from the 2004 Letter of Sector Policy and builds on previous National Action Plans on Biodiversity and Environment (both supported by UNDP/EEG), is to help the country move away from oil dependency and to diversify the national economy on the basis of sustainable management of forests, fisheries and biodiversity resources.

156. The proposed project is also consistent with ongoing initiatives in the zone. These include the USAID funded CARPE program which aims to improve natural resource management and governance in 12 landscapes across the Congo Basin. The Mbé Watershed is part of the Monte Alen - Monts de Cristal Landscape. These landscapes were originally defined by the CBFP (Congo Basin Forest Partnership) to which COMIFAC heads of state are members along with many other bilateral and multilateral donors and national and international NGOs. Other donors such as the African Development Bank (ADB) have adopted these landscapes and have identified the Monte Alen-Monts de Cristal Landscape as one of their sites of interest.

COUNTRY OWNERSHIP: COUNTRY ELIGIBILITY AND COUNTRY DRIVENNESS

157. Country eligibility: Gabon ratified the Convention on Biodiversity (1997), the Framework Convention on Climate Changes (1987), the CITES (1989), the RAMSAR (1987), the Convention of London (1992), and the Convention on marine environment and coastal zones of the West and Central Africa region (1988), making Gabon eligible for receiving GEF support under the Biodiversity focal area.

158. Country drivenness: Gabon is committed to sustainable management of its natural resources and this has been shown through the creation of the national parks network and policy reforms that have led to strong legislation for forest management. In 2002, Gabon set aside almost 11% of its territory in National Parks and policy reform in the forest sector has led to a Forestry Code which is supportive of sustainable forest management. In 2000, Gabon adopted the Environmental Action Plan (PNAE) which defined Gabon's priorities for environmental protection. This first environmental strategy document outlined several important themes, including the production of environmental goods and services. The Letter of Policy, which followed in 2004, and the current effort to update the Environmental Code shows the continued efforts Gabon is making in terms of protection of its natural resources.

SUSTAINABILITY AND REPLICABILITY

159. Environmental sustainability: The proposed project aims to support and strengthen the protection of the Mbé watershed, a zone of high conservation value, and including a National Park. The projects will not only strengthen the management of the national park, but will also support and provide incentives for reduced impact logging and mining by the economic operators in the zone. All this will have positive benefits for the environmental sustainability of the area.

160. Financial sustainability: The proposed project aims to test a PES mechanism for the Mbé watershed. At the end of the project, it is envisaged that a PES system will be operational and a source of sustainable financing for the management of the national park. It is believed that this project will be adequate to reach a functioning system for recurring operational costs and will thus continue into the future with minor or no financial support from the outside.

161.

162. Social sustainability: Social sustainability will be achieved through an extended field-level presence during the project implementation phase and through the stakeholder consultations carried out. This will ensure all stakeholders are aware of the project and its implications and are supportive of it.

163. Institutional sustainability: The proposed project will be led by the Ministry of the Environment, nature protection and sustainable development who are very supportive of the objectives and outcomes. Through the steering committee other institutions will also be involved at each stage of project development. This will ensure that the unit agreed upon to manage and support PES in Gabon will have the support from all necessary institutions. The project also aims to strengthen technical capacity on these institutions which will also increase institutional sustainability.

REPLICABILITY

164. Given that this is one of the first PES projects in the Congo Basin region, the proposed project has been designed to maximize replicability and lesson learning. As the project matures and reaches completion, it is expected to generate lessons with important bearing on PES projects in other areas with similar conservation issues and socio-economic fundamentals. Component 1 of this project will also greatly facilitate the development of other PES projects in Gabon as the enabling environment will have been strengthened. Replicability will be enhanced by very detailed documentation of all project stages and intensive monitoring of project impacts including the perception of local stakeholders and other partners.

PART III: Management Arrangements

IMPLEMENTATION ARRANGEMENTS

165. The project will be executed by General Directorate of Environment (DGE) which comes under the Ministry of Environment and Nature Protection and Sustainable Development, following UNDP guidelines for nationally executed projects. The Executing agency will sign the grant agreement with UNDP and will be accountable to UNDP for the disbursement of funds and the achievement of the project objective and outcomes, according to the approved work plan. In particular, the Executing Agency will be responsible for the following functions: (i) coordinating activities to ensure the delivery of agreed outcomes; (ii) certifying expenditures in line with approved budgets and work-plans; (iii) facilitating, monitoring and reporting on the procurement of inputs and delivery of outputs; (iv) coordinating interventions financed by GEF/UNDP with other parallel interventions; (v) approval of Terms of

Reference for consultants and tender documents for sub-contracted inputs; and (vi) reporting to UNDP on project delivery and impact.

166. **UNDP/EEG's Regional Coordination Unit for West & Central Africa**, through its Regional Technical Advisor for Biodiversity in Central Africa, will be responsible for ensuring that Project adheres to the principles of increment reasoning while achieving global environmental benefits. The Regional Technical Advisor will provide guidance to the UNDP Country Office and project staff concerning UNDP's responsibilities as the GEF Implementing Agency and GEF norms and policies. The Regional Technical Advisor will provide periodic reports on project progress to the GEF Secretariat and GEF Council. The Regional Technical Advisor will also play a key role in facilitating access to resources and expertise located in UNDP's regional and international headquarters to support the project and its objectives.

167. **UNDP:** UNDP Gabon will be responsible for technical and financial management of the project in close collaboration and consultation with the DGE. Project components will be implemented through the PMU established through project funds. In addition to the results and the activities enumerated above, the UNDP will be responsible for: (i) Ensuring professional and timely implementation of the activities and delivery of the reports and other outputs identified in the project document; (ii) Coordination and supervision of the activities outlined in the project document; (iii) Undertaking necessary organizational arrangements for all project meetings to be held under the aegis of DGE; (iv) Contracting of and contract administration for qualified local and international experts who meet the formal requirements of the UNDP/EEG; (v) Manage and be responsible of all financial administration to realize the targets envisioned in consultation with DGE; (vi) To mainstream project outcomes in its own national programme and consider funding opportunities from its own resources; (vii) To coordinate with UN Country Team in Gabon with a view to mainstreaming in their interventions at the country level and funding as appropriate; (viii) Establishing an effective networking between project stakeholders, specialized international organizations and the donor community; (ix) Ensure networking among the country-wide stakeholders; (x) Review and make recommendations for reports produced under the project; and (xi) Establish and endorse the thematic areas, with a view to ensuring linkage to national policy goals, relevance, effectiveness and impartiality of the decision making process.

168. The **DGE** at the (Ministry of Environment, Nature Protection and Sustainable Development) as the **Executing Agency**, will implement the project and work in close cooperation with the Ministry of Economy, Finance, Budgets and Privatisation, the Ministry of Planning, the Ministry for Forest Economy, Water and Fishing, the Ministry of Mines and Hydrocarbons, the Ministry of Agriculture, Animal Husbandry, Food Security and Rural Development, the National Parks Agency (ANPN), under the Ministry of Tourism and National Parks, the Ministry of Energy, Hydraulic Resources and New Energies, SEEG, international and local NGOs, and representatives of the local communities. The DGE will be responsible for (i) coordinating the meetings of the PSC; (ii) participating in PSC meetings as a PSC chair, (iii) nominating the National Coordinator, (iv) nominating the technical cell within the project management unit, (v) developing, signing, and overseeing the implementation of sub-agreements with IOs; (vi) providing project administration, accounting, and day-to-day coordination and logistics support; (vii) ensuring and coordinating stakeholder involvement, particularly cross sectoral coordination, (viii) facilitating and monitoring procurement of equipment and other physical inputs as required, (ix) maintaining regular communications with UNDP-CO and UNDP/EEG RCU, (x) preparing and providing project technical reports in a format and a schedule agreed on with UNDP; (xi) preparing and providing project financial reports in a format and a schedule agreed on with UNDP; and (xii) preparing and providing project monitoring and evaluation in a format and a schedule agreed on with UNDP.

169. One of the first activities of the project will be to establish a **Project Steering Committee (PSC)**, **Project Management Unit (PMU)** and **Technical Cell (TC)** which will be located in Libreville to

ensure coordination among stakeholder organizations at central level during the project period. The PMU and the PSC will be instrumental in conveying the messages/outcomes of actual site work to relevant central bodies and make use of them in developing new policies. The **Technical Cell (TC)** will facilitate a transfer of expertise to government partners. **Local Committees (LC)**, at the project site will also be established as a way of involving local stakeholders. Activities will be carried out by **Implementing Organisations (IO)** (including WCS, local and international consultants).

PROJECT MANAGEMENT

Project Oversight

170. **Project Steering Committee (PSC):** will be established at the inception of the project. It will be composed of representatives of all the stakeholders listed in Table 3. The PSC will meet at least quarterly and it will be convened and supported logistically by the PMU. The PSC will be chaired by DGE and will provide overall guidance for the project throughout its implementation. Specifically the PSC will be responsible for: (i) achieving co-ordination among the various government agencies; (ii) guiding the program implementation process to ensure alignment with national and local statutory planning processes and sustainable resource use and conservation policies, plans and conservation strategies; (iii) ensuring that activities are fully integrated between the other developmental initiatives in the region; (iv) overseeing the work being carried out by the implementation units, monitoring progress and approving reports; (v) overseeing the financial management and production of financial reports; (vi) monitor the effectiveness of project implementation; and (vii) preparing regular report-backs for the representing Departments/Institutions.

171. **Local Committees (LC):** The coordination among the LC will be provided by the PMU, and the members of all committees may get together at certain intervals, for instance during annual general assembly, where all the stakeholders meet regularly.

Project Management

172. **Project Management Unit (PMU):** The project administration and coordination between zones and relevant organizations will be carried out by a PMU under the overall guidance of the SC. The PMU will be composed of the **National Project Coordinator (NPC)**, the **Chief Technical Advisor (CTA)** and a Project Assistant/Financial Officer. The PMU will also include the **Technical Cell (TC)**. This cell will be made up of representatives of the Ministry of Environment (mostly through the DGE), Ministry of Finance and Ministry of Planning and Ministry of Forests and will monitor the develop of the project and technical aspects. More specifically, the role of the PMU will be to (i) ensure the overall project management and monitoring according to UNDP rules on managing UNDP/EEG projects; (ii) facilitate communication and networking among key stakeholders in Libreville; (iii) organize the meetings of the PSC; (iv) support the local stakeholders; (v) coordinate the implementation organizations; (vi) develop work plans; (vii) develop terms of references and recruit consultants as necessary; (viii) oversee works and assure the quality of the implementation organisations.

173. **Implementing Organisations (IO):** The IOs will be coordinated by the Chief Technical Advisor and PMU. They will assume technical responsibility for individual outcomes specified by terms of reference (TOR) within sub-agreement contracts signed with the executing agency. These organisations will include: Wildlife Conservation Society (WCS) and other organisations as necessary such as local research institutions and universities e.g IRET, Local NGOs and associations active in the project site, other technical partners such as USFS and international and local consultancies.

Project Staffing

174. **National Project Coordinator (NPC):** The coordinator shall be assigned by the DGE and will be responsible for the administrative and technical coordination of the project and report progress upon feedback received from the project partners. Full-time project hire. See Section IV for more detail.

175. **Chief Technical Advisor (CTA):** The Chief Technical Adviser (CTA) will be responsible for providing overall technical backstopping to the Project. He/She will render technical support to the National Project Coordinator (NPC), staff and other government counterparts. The CTA will coordinate the provision of the required technical inputs, reviewing and preparing Terms of Reference and reviewing the outputs of consultants and other sub-contractors. The CTA will be an experienced expatriate. He/She will report directly to the National Project Coordinator. Full-time project hire. See Section IV for more detail.

176. **Consultancies/Technical assistance:** Technical assistance and consultancies will be used throughout the project to provide focused technical leadership to achieve specific outputs. These consultants will be recruited based on TORs developed by the PMU.

PART IV: Monitoring and Evaluation Plan and Budget

MONITORING AND REPORTING²³

177. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team and the UNDP Country Office (UNDP-CO) with support from the UNDP/EEG Regional Coordination Unit in Dakar. The Logical Framework Matrix in Annex A provides performance and impact indicators for project implementation along with their corresponding means of verification. The METT tool (see Annex 2) and Financial Scorecard (Annex 3) will all be used as instruments to monitor progress of the PES effectiveness. The M&E plan includes: inception report, project implementation reviews, quarterly and annual review reports, a mid-term and final evaluation. The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to M&E activities. The project's Monitoring and Evaluation Plan will be presented and finalized in the Project's Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

Inception Phase

178. A Project Inception Workshop will be conducted with the full project team, relevant government counterparts, co-financing partners, the UNDP-CO and representation from the UNDP/EEG Regional Coordinating Unit, as well as UNDP/EEG (HQs) as appropriate. A fundamental objective of this Inception Workshop will be to assist the project team to understand and take ownership of the project's goal and objective, as well as finalize preparation of the project's first annual work plan on the basis of the logframe matrix. This will include reviewing the logframe (indicators, means of verification, assumptions), imparting additional detail as needed, and on the basis of this exercise, finalizing the Annual Work Plan (AWP) with precise and measurable performance indicators, and in a manner

²³ As per GEF guidelines, the project will also be using the BD 1 Management Effectiveness Tracking Tool (METT). New or additional GEF monitoring requirements will be accommodated and adhered to once they are officially launched.

consistent with the expected outcomes for the project. Additionally, the purpose and objective of the Inception Workshop (IW) will be to: (i) introduce project staff with the UNDP/EEG team which will support the project during its implementation, namely the CO and responsible Regional Coordinating Unit staff; (ii) detail the roles, support services and complementary responsibilities of UNDP-CO and RCU staff vis à vis the project team; (iii) provide a detailed overview of UNDP/EEG reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, the Annual Review Report (ARR), as well as mid-term and final evaluations. Equally, the IW will provide an opportunity to inform the project team on UNDP project related budgetary planning, budget reviews, and mandatory budget rephasings. The IW will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be discussed again, as needed, in order to clarify for all, each party's responsibilities during the project's implementation phase.

Monitoring responsibilities and events

179. A detailed schedule of project review meetings will be developed by the project management, in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for Project Board Meetings and (ii) project related Monitoring and Evaluation activities. Day-to-day monitoring of implementation progress will be the responsibility of the Project Manager based on the project's Annual Work Plan and its indicators. The Project Manager will inform the UNDP-CO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion. The Project Manager will fine-tune the progress and performance/impact indicators of the project in consultation with the full project team at the Inception Workshop with support from UNDP-CO and assisted by the UNDP/EEG Regional Coordinating Unit. Specific targets for the first year implementation progress indicators together with their means of verification will be developed at this Workshop. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the Annual Work Plan. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the project team.

180. Measurement of impact indicators related to global biodiversity benefits will occur according to the schedules defined in the Inception Workshop, using METT scores. The measurement of these will be undertaken through subcontracts or retainers with relevant institutions. Periodic monitoring of implementation progress will be undertaken by the UNDP-CO through quarterly meetings with the Implementing Partner, or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.

181. Annual Monitoring will occur through the Project Board Meetings (PBM). This is the highest policy-level meeting of the parties directly involved in the implementation of a project. The project will be subject to PBMs two times a year. The first such meeting will be held within the first six months of the start of full implementation.

182. The Project Manager in consultations with UNDP-CO and UNDP/EEG RCU will prepare a UNDP/EEG PIR/ARR and submit it to PBM members at least two weeks prior to the PBM for review and comments. The PIR/APR will be used as one of the basic documents for discussions in the PB meeting. The Project Manager will present the PIR/APR to the Project Board, highlighting policy issues

and recommendations for the decision of the PBM participants. The Project Manager also informs the participants of any agreement reached by stakeholders during the PIR/APR preparation on how to resolve operational issues. Separate reviews of each project component may also be conducted if necessary. The Project Board has the authority to suspend disbursement if project performance benchmarks are not met. Benchmarks will be developed at the Inception Workshop, based on delivery rates, and qualitative assessments of achievements of outputs.

183. The terminal PBM is held in the last month of project operations. The Project Manager is responsible for preparing the Terminal Report and submitting it to UNDP-CO and UNDP/EEG RCU. It shall be prepared in draft at least two months in advance of the terminal PBM in order to allow review, and will serve as the basis for discussions in the PBM. The terminal meeting considers the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated objectives and contributed to the broader environmental objective. It decides whether any actions are still necessary, particularly in relation to sustainability of project results, and acts as a vehicle through which lessons learnt can be captured to feed into other projects under implementation of formulation.

184. UNDP Country Offices and UNDP/EEG RCU as appropriate, will conduct yearly visits to project sites based on an agreed upon schedule to be detailed in the project's Inception Report/Annual Work Plan to assess first hand project progress. Any other member of the Project Board can also accompany. A Field Visit Report/BTOR will be prepared by the CO and UNDP/EEG RCU and circulated no less than one month after the visit to the project team, all Project Board members, and UNDP/EEG.

Project Reporting

185. The Project Manager in conjunction with the UNDP/EEG extended team will be responsible for the preparation and submission of the following reports that form part of the monitoring process. The first six reports are mandatory and strictly related to monitoring, while the last two have a broader function and the frequency and nature is project specific to be defined throughout implementation.

186. A Project Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed First Year/ Annual Work Plan divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the project. This Work Plan will include the dates of specific field visits, support missions from the UNDP-CO or the Regional Coordinating Unit (RCU) or consultants, as well as time-frames for meetings of the project's decision making structures. The Report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame. The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation. When finalized, the report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the IR, the UNDP Country Office and UNDP/EEG's Regional Coordinating Unit will review the document.

187. An Annual Review Report shall be prepared by the Project Manager and shared with the Project Board. As a self-assessment by the project management, it does not require a cumbersome preparatory process. As minimum requirement, the Annual Review Report shall consist of the Atlas standard format for the Project Progress Report (PPR) covering the whole year with updated information for each element of the PPR as well as a summary of results achieved against pre-defined annual targets at the project

level. As such, it can be readily used to spur dialogue with the Project Board and partners. An ARR will be prepared on an annual basis prior to the Project Board meeting to reflect progress achieved in meeting the project's Annual Work Plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work. The ARR should consist of the following sections: (i) project risks and issues; (ii) project progress against pre-defined indicators and targets and (iii) outcome performance.

188. The Project Implementation Review (PIR) is an annual monitoring process mandated by the GEF. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. Once the project has been under implementation for a year, a Project Implementation Report must be completed by the CO together with the project team. The PIR should be participatorily prepared in July and discussed with the CO and the UNDP/EEG Regional Coordination Unit during August with the final submission to the UNDP/EEG Headquarters in the first week of September.

189. Quarterly progress reports: Short reports outlining main updates in project progress will be provided quarterly to the local UNDP Country Office and the UNDP/EEG RCU by the project team.

190. UNDP ATLAS Monitoring Reports: A Combined Delivery Report (CDR) summarizing all project expenditures, is mandatory and should be issued quarterly. The Project Manager should send it to the Project Board for review and the Implementing Partner should certify it. The following logs should be prepared: (i) The Issues Log is used to capture and track the status of all project issues throughout the implementation of the project. It will be the responsibility of the Project Manager to track, capture and assign issues, and to ensure that all project issues are appropriately addressed; (ii) the Risk Log is maintained throughout the project to capture potential risks to the project and associated measures to manage risks. It will be the responsibility of the Project Manager to maintain and update the Risk Log, using Atlas; and (iii) the Lessons Learned Log is maintained throughout the project to capture insights and lessons based on good and bad experiences and behaviours. It is the responsibility of the Project Manager to maintain and update the Lessons Learned Log.

191. Project Terminal Report: During the last three months of the project the project team will prepare the Project Terminal Report. This comprehensive report will summarize all activities, achievements and outputs of the Project, lessons learnt, objectives met, or not achieved, structures and systems implemented, etc. and will be the definitive statement of the Project's activities during its lifetime. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the Project's activities.

192. Periodic Thematic Reports: As and when called for by UNDP, UNDP/EEG or the Implementing Partner, the project team will prepare Specific Thematic Reports, focusing on specific issues or areas of activity. The request for a Thematic Report will be provided to the project team in written form by UNDP and will clearly state the issue or activities that need to be reported on. These reports can be used as a form of lessons learnt exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome obstacles and difficulties encountered. UNDP is requested to minimize its requests for Thematic Reports, and when such are necessary will allow reasonable timeframes for their preparation by the project team.

193. Technical Reports are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent APRs. Technical Reports may also be prepared by

external consultants and should be comprehensive, specialized analyses of clearly defined areas of research within the framework of the project and its sites. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels.

194. Project Publications will form a key method of crystallizing and disseminating the results and achievements of the Project. These publications may be scientific or informational texts on the activities and achievements of the Project, in the form of journal articles, multimedia publications, etc. These publications can be based on Technical Reports, depending upon the relevance, scientific worth, etc. of these Reports, or may be summaries or compilations of a series of Technical Reports and other research. The project team will determine if any of the Technical Reports merit formal publication, and will also (in consultation with UNDP, the government and other relevant stakeholder groups) plan and produce these Publications in a consistent and recognizable format. Project resources will need to be defined and allocated for these activities as appropriate and in a manner commensurate with the project's budget.

INDEPENDENT EVALUATIONS, AUDITS AND FINANCIAL REPORTING

195. The project will be subjected to at least two independent external evaluations as follows: An independent Mid-Term Evaluation will be undertaken at exactly the mid-point of the project lifetime. The Mid-Term Evaluation will determine progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the UNDP/EEG Regional Coordinating Unit.

196. An independent Final Evaluation will take place three months prior to the terminal Project Board meeting, and will focus on the same issues as the mid-term evaluation. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the UNDP/EEG Regional Coordinating Unit.

LEARNING AND KNOWLEDGE SHARING

197. Results from the project will be disseminated within and beyond the project intervention zone through a number of existing information sharing networks and forums. In addition, the project will participate, as relevant and appropriate, in UNDP/EEG sponsored networks, organized for Senior Personnel working on projects that share common characteristics. UNDP/EEG Regional Unit has established an electronic platform for sharing lessons between the project coordinators. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Identify and analyzing lessons learned is an on-going process, and the need to communicate such lessons as one of the project's central contributions is a requirement to be delivered not

less frequently than once every 12 months. UNDP/EEG shall provide a format and assist the project team in categorizing, documenting and reporting on lessons learned.

AUDIT CLAUSE

198. The Government will provide the Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted according to UNDP financial regulations, rules and audit policies by the legally recognized auditor of the Government, or by a commercial auditor engaged by the Government.

Table 6. M&E Activities, Responsibilities, Budget and Time Frame

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team staff time</i>	Time frame
Inception Workshop	Project Coordinator UNDP CO UNDP GEF	10,000	Within first two months of project start up
Inception Report	Project Team UNDP CO	None	Immediately following IW
Measurement of Means of Verification for Project Purpose Indicators	Project Coordinator will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members	To be finalized in Inception Phase and Workshop. Indicative cost: 15,000.	Start, mid and end of project
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	Oversight by Project Coordinator Project team	To be determined as part of the Annual Work Plan's preparation. Indicative cost: 8,000 (annually); total: 32,000	Annually prior to ARR/PIR and to the definition of annual work plans
ARR and PIR	Project Team UNDP-CO UNDP/EEG	None	Annually
Quarterly progress reports	Project team	None	Quarterly
CDRs	Project Coordinator	None	Quarterly
Issues Log	Project Coordinator UNDP CO Programme Staff	None	Quarterly
Risks Log	Project Coordinator UNDP CO Programme Staff	None	Quarterly
Lessons Learned Log	Project Coordinator UNDP CO Programme Staff	None	Quarterly
Mid-term Evaluation	Project team UNDP- CO	40,000	At the mid-point of project implementation.

	UNDP/EEG Regional Coordinating Unit External Consultants (i.e. evaluation team)		
Final Evaluation	Project team, UNDP-CO UNDP/EEG Regional Coordinating Unit External Consultants (i.e. evaluation team)	40,000	At the end of project implementation
Terminal Report	Project team UNDP-CO local consultant	0	At least one month before the end of the project
Lessons learned	Project team UNDP/EEG Regional Coordinating Unit (suggested formats for documenting best practices, etc)	12,000 (average 3,000 per year)	Yearly
Audit	UNDP-CO Project team	8,000	Yearly
TOTAL indicative COST <i>Excluding project team staff time and UNDP staff and travel expenses</i>		US\$ 157,000	

PART V: Legal Context

199. This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Gabon and the United Nations Development Programme, signed by the parties on [insert_date_]. The host country-implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

200. The UNDP Resident Representative in Libreville is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP-EEG Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

- a) Revision of, or addition to, any of the annexes to the Project Document;
- b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
- c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and
- d) Inclusion of additional annexes and attachments only as set out here in this Project Document.

